Europress Enterprise
Issue 64 ● September 1993 ● £3.25 Overseas price £3.50 ● Hfl 15.95

AMIGA COMPUTING



RED HOT GRAPHICS!

They're easier than ever with Caligari 24

SAVE £150!
Top level graphics engine

IMAGE FX™

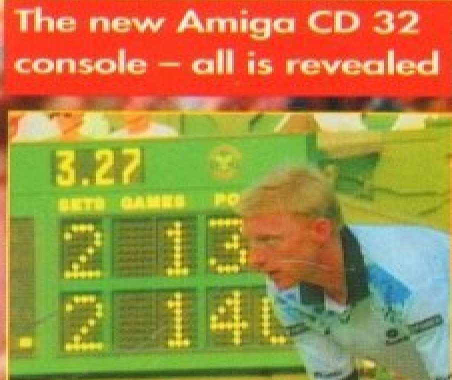
Super fully featured image processor.
Now you can create stunning graphic effects easily
GVP
SAVE DISABLED (2Mb RAM recommended)

AMIGA COMPUTING

PLUS:
Bobby Handy and cute Workbench friend
View Great stand alone anim player
Triktrak Backgammon style game
QuickGrab & ScreenX Two excellent screen grabbers



The new Amiga CD 32 console – all is revealed



VLab Y/C – grabs the headlines and the video

REVIEWED: V Lab Y/C ● Office shareware ● Phone Pak
Colour scanner ● Survival guide to hard drives ● Printer roundup

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INDI DIRECT MAIL
Proudly Presents
THE
JAKKI BRAMBLES COLUMN

Hi,
It seems that every month I'm able to report some exciting news from Commodore. This month is no exception but probably the most exciting to date.... **A1200 PRICE CRASH!!!** That's right Commodore have announced that the **RRP** of the **A1200 is now £299.99**. At this price there cannot be a better computer anywhere based on a Power to the Pound ratio. Armed with this news, Indi have got some pretty exciting A1200 offers, just take a look in the following Indi pages!!
Do you like the new Indi Logo?
I'm told that a certain person in the Indi Marketing Team has made it clear that when it comes to the **Amiga 4000/030** he is the *main man.*
So equipped with an **Opalvision 24 - bit graphics card** he was set loose.
The image was converted to an IBM compatible file using Art Department Professional, ported over to a **1.4 gigabyte graphics PC Workstation,** then using the A4000 workbench file transferred and finally slotted into the Indi Advert.
I'm sure that you will agree that the end product is superb and a real demonstration of the Amigas Graphic Capabilities. Still on the subject of the Amiga the winner of this months 'Hints and Tips' competition is Peter Shelley of Stafford. Peter shows how you can save memory when using your Amiga.
Edit the startup sequence which can be found in the workbench partition in the ***'S'*** *directory. Delete the last line of the sequence: "END CLI". This will enable you to quit workbench (once loaded) and drop into shell (Amiga DOS) saving over* ***100 K*** *that would normally be taken up by the multi tasking windows environment. All commands are still resident including* ***DIR, DELETE*** *etc... Of course I can only recommend this for those users who wish to work outside the Amigas graphical environment and who are conversant with the Amigas command line interface.*
Thankyou Peter, your prize is on its way, many thanks to all those who have written to me, keep those letters coming.
Buying a printer to go alongside your Amiga is a big decision and one that every serious Amiga owner has to face.
Everyone knows that Indi fully researched the printer market before choosing Panasonic printers and believe that Panasonic Quiet Printers are the best on the market, but they would say that wouldn't they!
Now I'm told that Romtec the computer Industry analysts have announced that the **Panasonic KX-P 2123 has become the UK's top selling colour matrix printer.** Well done Panasonic (and Indi)
Indi have just sent me details of their new **Multi Media Club**, it's a very interesting idea offering all home entertainment products under one roof not just computer games. It's well worth a look.
Kind Regards,

Jakki Brambles

Apologies from Indi that we ran out of signed Jakki Brambles photographs. Jakki has now signed more copies and they are on their way.

DMA ENSURES HIGHEST PRACTICE

As with most industries, the UK's personal computer industry has its share of cowboys operating in the mail order sector and at the receiving end a line up of despairing consumers who have suffered at their hands.
A personal computer is a sophisticated and expensive item and provided the purchaser is dealing with a reputable and accredited supplier, buying a computer by mail order can be a perfectly safe and cost effective exercise. The Direct Marketing Association (DMA) was set up in April 92 to set and maintain high standards for the sake of the industry and society at large, and to ensure that we can continue to regulate our own activities on the basis of proper professional responsibility.
Membership of the DMA is not conferred lightly - it is a privilege which entails responsibilities, to the consumer as well as to the industry. The foundation for this must be good practice. DMA members are required to abide by the highest standards as laid down in the DMA's code, enforced on members by The Authority of the DMA a separate body with an independent Chairman, and which is an assurance of vigorous self - regulation and professional responsibility.
DMA members also agree, as a condition of membership, to abide by The British Code of Advertising Practice and The British Code of Sales Promotion Practice: to apply the Mailing Preference Service file when appropriate: and to subscribe to the Advertising Standards Board of Finance (ASBOF) and to the Mailing Standards Levy as applicable.
The DMA symbol can only be used by members. Printed on stationary, advertising and other promotional material it demonstrates that these companies conform to the Association's high standards and are subject to the DMA's Code of Practice, thus enhancing the companies credibility with customers, suppliers and of greatest importance, the consumer.
Since the symbol was introduced last June, it has become synonymous with quality , professionalism and and responsibility. While it cannot be shown in any way which will become a sign of best industry practice and of strict adherence to DMA codes of conduct. The symbol represents authority for members and reassurance for consumers. It has been a high valued mark of confidence signifying to the consumer the truly professional edge of the industry.

Alison Slan
(Director of Public Relations,DMA)

A4000 / 030 EXCLUSIVE INDI PACK

The new Amiga 4000 / 030 is back in stock and even better value with the new **Indi Added Value Pack.**
Amiga 4000 / 030 80 Mb HD (2Mb of 32 - bit RAM, 1Mb chip and 1Mb fast)
FREE INDI GRAPHICS PACK
PD C - light, Graphic Utilities, Ray Tracing and Rendering package **pre loaded** on to your Hard Drive.
FREE WORDWORTH The ultimate word / document processor. Normal RRP_ £129.99 inc VAT.
INDI PRICE £979.99

Amiga 4000 / 030 120 MB HD.(2 MB OF 32 - Bit RAM 1 Mb chip and 1 Mb fast)
FREE INDI GRAPHICS PACK
PD C - light, Graphic Utilities, Ray Tracing and Rendering package **pre loaded** on to your Hard Drive.
FREE WORDWORTH The ultimate word / document processor. Normal RRP_ £129.99 inc VAT.
INDI PRICE £1059.99

STOP PRESS
Amiga 32 -bit CD arrives August
Call **(0543) 419 999** for details.

INDI LAUNCH NEW MULTI MEDIA CLUB

Last month saw the launch of the **Indi Multi Media Club** and what a response there has been.Early indications show that without a doubt it is destined to be the largest of it's kind. Apart from all the obvious club benefits the Indi operation offers a true 'One Stop Shop' for all members.On offer each month with an ever increasing product range, members can obtain software to cover every application, including **Morphing Rendering Ray Tracing and Video.** There's a vast range of accessories and peripherals again encompassing members every need and a PD Library second to none.
The Club also offers a very comprehensive range of videos including the **Cult Manga Titles, Music Features and Special Interest.** There really is something to suit everyones taste.
For those members with **CD ROM** players (including **CDTV, PC and SEGA**) there's plenty on offer. Not only does the 'Club' cover CD ROM titles, there are also some great audio titles available.
With so much happening on the **Multi Media** scene it's hardly surprising that Indi are there to provide a competitive single source of product supply.
Membership costs only £10 and each member receives a quality gift on joining , even though there is absolutely no commitment to purchase at any time. If you would like to be a part of this exciting club then call **Indi** on **0543 419 999.**

INDI DIRECT MAIL

DIRECT MARKETING ASSOCIATION

DEFERRED CREDIT ON ALL ORDERS OVER £200.
*PAY 10% NOW AND NOTHING MORE FOR 3 MONTHS

CUSTOMER CHARTER

INDI Direct Mail is original and very exciting. Before you buy mail order you must first be confident that you will receive the product you've ordered and that the supplier will be still be there in the future, should you need them.

A mail order purchase from INDI is a safe and secure decision, and here's why.

INDI is a wholly owned subsidiary of a public company now in it's tenth year of trading and specialising in the supply of computer products.

With a turnover approaching £30 million per annum, we have the resources and the purchasing power to offer you the best deals, deliver them next day nationwide and always be around when you need us.

SALES AND SUPPORT

The INDI sales team have been trained to take your order with the utmost care and efficiency. All stock offered for sake is held in stock, centrally at our group ware house complex and is available for next day delivery, direct to your home or business. If at any time we are out of stock your money will not be banked until the product is available (a point worth checking should you be tempted to purchase elsewhere)

General information regarding product is available from our sales team, however technical support is always on hand should you need assistance.

All prices quoted are inclusive of VAT.

INDI TELESALES
TEL 0543 419999 FAX 0543 418079

CREDIT FACILITIES

INDI are now able to offer competitive credit facilities on all orders over £200. All credit facilities are subject to status and applicants must be over the age of 18.

If you would like a quote simply call our our sales line where acceptance can normally be notified within the hour. We are also able to offer Credit Insurance to cover repayments in the event of sickness or unemployment.

AMOUNT* OF CREDIT	12 MONTHS		24 MONTHS		36 MONTHS	
	MONTHLY PYMNTS	TOTAL PAYABLE	MONTHLY PYMNTS	TOTAL PAYABLE	MONTHLY PAYABLE	TOTAL PYMNTS
200	£22.00	£264.00	£12.00	£298.32	£9.31	£335.63
500	£54.99	£659.88	£31.06	£745.44	£23.27	£837.72
1000	£109.98	£1319.76	£62.13	£1491.12	£46.54	£1675.44

APR 29.9% WRITTEN QUOTATIONS AVAILABLE ON REQUEST
*After deposit paid

AFTER SALES AND SPECIALIST SERVICE

All products are guaranteed for 12 months. Some products carry a 12 months at home service and repair guarantee (where indicated). In the unlikely event that any product purchased from INDI arrives at your home faulty, we will collect from your home and replace the product completely free of charge.

As part of our policy of continual product development and refinement, we reserve the right to change specifications of products advertised. Please confirm current specifications at the time of ordering.

Prices are valid for month of publication only.

AMIGA A1200

ALL NEW 32 - BIT AMIGA



LOOK A1200 PRICE CRASH

COMIC RELIEF PACK

The event may be over but the fund raising still goes on. If you're looking for the latest in Amiga technology then this is the starter pack for you. Based around the outstanding A1200, this pack also gives you sleepwalker, a most addictive platform game from ocean software. You'll be pleased to know that every one of these packs purchased raise another £10 for Comic Relief.

A1200 STANDARD FEATURES.

* 68020 Processor * PCMCIA Slot. * 2MB Chip RAM. * 3.5" Internal Drive * AA Chipset. * Built in TV modulator. * Alpha numeric keypad. * 12 Months at home maintenance.

FREE Sleepwalker and £10 donation to Comic Relief

INDI PRICE

£289.99 or from **£11.04*** per month

*(Credit price based on 36 monthly payments APR 29.8%. Total repayment £397.92 and 90 day deferred payments.

OFFICIAL A1200 HD SYSTEMS

The Amiga 1200 supplied by Indi Direct Mail now includes the official (legal) Commodore installation disk and hard drive utility manual. Indi are proud to be an official supplier of Amiga 1200 Hard Drive systems, that include the official software, documentation and on - site warranty.

STOP PRESS
ALL A1200 PRICES CRASHED INCLUDING ALL HARD DRIVE SYSTEMS

A1200 80 MEG HD INDI PRICE £499.99

A1200 120 MEG HD INDI PRICE £589.99

INDI A1200 ADDED VALUE PACKS

Pack Contains:
* International Games Challenge. * The Cool Croc.
* Paradroid 90. * Zapsac Rucksack and Zappo T - shirt.

INDI PRICE £19.99

80 Mb Hard Disk upgrades available on any A1200. Upgrade does not invalidate your Wang warranty on A1200 and Hard Disks. Phone for a quote.

AMIGA A4000



FREE INDI GRAPHICS PACK SEE JAKKI BRAMBLES PAGE

It's here - The new Amiga 4000/030

The NEW Amiga 4000/030 features a EC68030 processor running at an incredible 25Mhz, and upgradable at a later date to a faster processor. The 4000/030 has a powerful 2 Mb of 32 - bit RAM (1 Mb chip & 1 Mb fast) expandable to 18 Mb using industry standard 32 - bit Simms module. In line with the Amiga Flagship 4000/040 the 4000/030 features the new AGA graphics chipset, giving you a massive pallet of 16.8 million colours. A range of hard drive options are available from 80 - 240 Mb and includes a SCSI option.

4000/030 80 Mb HD INDI PRICE £979.99

Other Drive Options

4000/030 120 Mb HD INDI PRICE £1059.99

4000/030 240 Mb HD (exclusive to INDI)
Phone for price.

4000/030 120 Mb SCSI HD (exclusive to INDI)
Phone for price

A full range of approved upgrades are available for the 4000/030, including additional memory modules, hard drives, PC bridge boards, FPU's (68881 &68882)and the 24 - bit Opal Vision graphics and video system

NEW MONITOR RANGE

THE NEW DUAL SYNC1942 Monitors have been specially designed for the New Amiga 1200 and 4000 computers. Both monitors feature built - in stereo speakers.

INDI PRICE

1940 Monitor £279.99

14 inch screen size - 0.39 mm dot matrix

INDI PRICE

1942 Monitor £379.99

14 inch screen size - 0.28 mm dot matrix



ZAPSAC AND T - SHIRT
INDI PRICE £17.99

(Free with A1200 Comic Relief Pack, INDI A600 Accessory Pack)



Parnet Adaptor for CDTV

Connect a CDTV player to any Amiga, and access the world of CD - ROM software.The Parnet interface and software will allow the Amiga CDTV to be used as a CD - ROM drive withe any Amiga and will give any Amiga owner access to the vast range of CDTV software currently available.

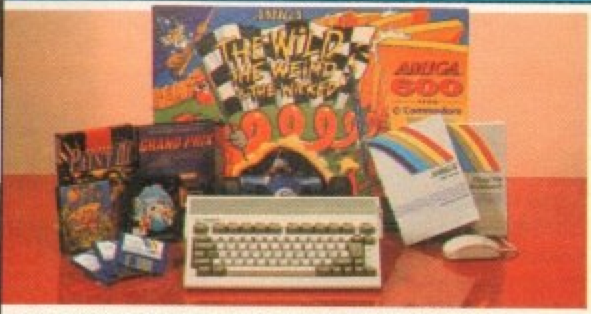
The CDTV player offers excellent value for money when compared with a standard CD - ROM drive and interface. Most CD - ROM drives will set you back over £400 while CDTV will cost you less than £300 and will play audio CD's in addition to CD - ROM / CDTV disks your Amiga, interface cable and PD disk with driver software for your CDTV player. **(The Parnet adapter can be used to link any Amigas together)**

INDI PRICE £39.99

A4000/030 + CDTV + 1942 MONITOR + PARNET. INDI PRICE £1599.99

CDTV + PARNET.
INDI PRICE £329.99

AMIGA A600 PRICE CRASH



THE WILD THE WEIRD AND THE WICKED A600 is an ideal starter pack containing a considered mix of software, making the most of the Amigas capabilities.

PACK CONTAINS:
* A600 Single Drive
* Built in TV Modulator
* 1 Mb Memory
* Pushover: Grandprix
* Silly Putty: Deluxe Paint III
* Mouse and Manuals

NEW LOW LOW PRICES

~~£289.99~~ **£215.99**

A600 - SD A single drive Amiga for those of you requiring a basic A600 at a very competitive price.

PACK INCLUDES: A600 single drive, built in TV modulator, 1 Mb memory. 12 Months at home service

INDI VALUE ADDED FREE * Kick Off 2 * Pipemania * Space Ace * Populous * Microswitched Joystick

INDI PRICE ~~£239.99~~ **£189.99**

A600 EPIC PACK (40 Mb HD) PACK INCLUDES:
A600 Hard Disks (40Mb) * **1 Mb Memory** * **Epic** * **Rome** * Myth * Trivial Pursuit * Amiga Text * Deluxe Paint III * 12 Months at home service.
PLUS INDI ACCESSORIES PACK

INDI PRICE ~~£395.99~~ **£379.99**

INDI A600 ACCESSORY PACK (Featured with WWW)
* Microswitched Joystick * Lockable Disk Box * Disk Wallet * 10 Blank Disks * Kick Off 2 * Pipemania * Space Ace * Populous * Zapsac A600 Carry Case * Zappo T - Shirt.

INDI PRICE £26.99

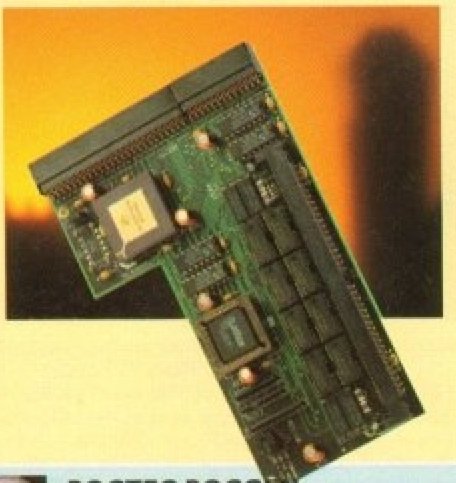
WANT THE BEST IN PROFESSIONAL AMIGA. WHY NOT TAKE ADVANTAGE OF THE CREDIT DEALS AVAILABLE (SUBJECT TO STATUS). CREDIT AVAILABLE ON 6,12, 18, 24, 36 MONTHS. WHY NOT RING NOW FOR A QUOTE. SAME DAY RESPONSE.

AMIGA RECOMMENDED PERIPHERALS & ACCESSORIES

NEW FROM MICROBOTICS!!!. M1230XA ACCELERATOR LAUNCH!!

Microbotics beats the competition in price/ performance/ features and configurations. INDI is very pleased to announce the availability of the new 68030 accelerator product for the A1200: the microbotics M1230 XA (call it the "XA" for short). 50 Mhz as standard! Huge 128 MB memory design is standard (the biggest memory space in any A1200 peripheral) just look at these specifications and prices!

M1230 XA W/40 MHZ EC 030 0MB **INDI PRICE £299.99**
M1230 XA W/40 MHZ EC 030 4MB **INDI PRICE £399.99**
M1230 XA W/40 MHZ EC 030 8MB **INDI PRICE £499.99**
M1230 XA W/50 MHZ MMU 030 0MB **INDI PRICE £399.99**
M1230 XA W/50 MHZ MMU 030 4MB **INDI PRICE £499.99**
M1230 XA W/50 MHZ MMU 030 8MB **INDI PRICE £599.99**

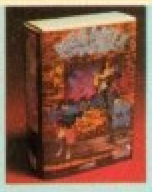


MBX1200.

The original and best floating point unit and memory upgrade for the Amiga A1200. Available with 0,4 or 8 MB of 32 bit Fast RAM and a choice of floating point units.Now complete with real time clock (RTC)

IMBX1200Z 6881 14 MHZ 0MB **INDI PRICE £149.00**
MBX1200Z 6881 14 MHZ 4MB **INDI PRICE £299.00**
MBX1200Z 6881 14 MHZ 8MB **INDI PRICE £399.00**
MBX1200Z 6882 25 MHZ 0MB **INDI PRICE £199.00**
MBX1200Z 6882 25 MHZ 4MB **INDI PRICE £349.00**
MBX1200Z 6882 25 MHZ 8MB **INDI PRICE £429.00**
MBX1200Z 6882 50 MHZ 0 MB **INDI PRICE £399.00**
MBX1200Z 6882 50 MHZ 4MB **INDI PRICE £499.00**
MBX1200Z 6882 50 MHZ 8MB **INDI PRICE £599.00**

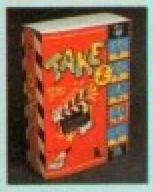
AUDIO VISUAL



MEGAMIX. Low cost, hi spec digital effects cartridge plugs into the printer port of the Amiga. Allows stereo sampling from almost any musical source.
INDI PRICE £29.99



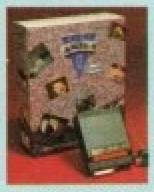
ROCTEC ROCGEN
Entry level Genlock for all Amigas. Record stunning Amiga Graphics into standard video or overlay text and graphics onto a video signal.
INDI PRICE £69.99



TAKE 2. Animation package is a must foe computer artists and enthusiasts of all ages. As used in Rolf Harris Cartoon Club.
INDI PRICE £37.99

ROCTEC ROCGEN PLUS.
As above but with extra features such as tinting and signal inversion. Allows for real time editing of graphics. Compatible with all Amigas.
INDI PRICE £133.99

ROCTEC ROCKEY.
The ultimate accessory for Amiga / Video fans. Separate RGB controls to chroma key on any colour.
INDI PRICE£249.99



VIDI AMIGA 12. The ultimate low cost colour digitiser for the Amiga. "The best value full colour digitiser on the market" AMIGA FORMAT.
INDI PRICE £75.99

ROMBO VIDI AMIGA 12 (RT). Based on the best selling Vidi Amiga 12. This all new version offers real time colour capture from any video source. Full AGA chipset support as standard for all A1200 / 4000 users.
INDI PRICE £139.99

ROMBO VIDI AMIGA 24(RT). For the more serious user, this 24 - bit version will again capture from from any video source with true photo realistic images! A staggering 16.7 million colours can be utilised with incredible results. Full AGA chipset support.
INDI PRICE £239.99

MEMORY UPGRADES AND ACCESSORIES

M501 The original 0.5MB battery backed upgrade for the A500.
INDI PRICE £29.99

M502 The original H1 MB battery backed upgrade for the A500.
INDI PRICE £49.99

8 Up memory board. Designed for the A1500/ A2000. Memory upgradeable to 2/ 4 or 8MB
INDI PRICE £69.99

Hard frame suitable for A1500/ A2000. Allows for the interface of a SCSI hard drive.
INDI PRICE £110.99

AMIGA PERIPHERALS



2MB SMARTCARD. The original and still the only fully PCMCIA compatible memory card for A600/ A1200.Comes with lifetime guarantee. Beware of cheap imitations.
INDI PRICE £129.99
4MB SMARTCARD. Same as above but maximum 4MB.
INDI PRICE £199.99

ZAPPO 601.
Trapdoor upgrade for the A600. 1MB with RTC.
INDI PRICE £49.99
ZAPPO 601 INC. As above only 512K no clock. **INDI PRICE £29.99**



DISK DRIVES



ZAPPO EXTERNAL FLOPPY
You've seen all the reviews on this popular and affordable second Amiga drive. Compatible with all Amigas.
INDI PRICE £59.99
" **Quality: 9 out of10. " Exceptional value for money. AMIGA COMPUTING JAN 93**

MONITOR



1084ST MONITOR.
Commodores original and best selling colour stereo monitor. Now includes swivel and tilt stand for total ease of use.
INDI PRICE £189.99
(£179.99 if purchased with A600 / A1200 / A1500)



Third Party OpalVision Software

(Available now or coming soon)

Aladdin 4D, Amilink Video Editing Products, Art Department Professional, Caligari 24, Cine Morph,Fractal Pro, Image FX, Imagemaster, Imagine, Michtron Entertainment Products Morph Plus, Real 3D, Scala Multi media 200, Texture City Image Libraries, 3D Professional, Transporter, Tv Paint, Vista Pro, Video Visions and more!!!

The NEW OPAL VISION system (Rev.2)

The amazing Opalvision 24 - bit graphics board and software suite has been updated and is now even better value for money.
The software suite now includes:
Opal Paint V2.0 - Now includes full magic wand implementation and Alpha Channel that allows photo compositing with selectable levels on a pixel by pixel basis.The new Chrominance effect allows absolute, real time control of image contrast, brilliance and re - mapping of colours.
Opal AnimMATE V2.0 - ofering real time play back of animations created by ray tracers, landscape generators, morphers and all other 24 - Bit software.
Opal Hotkey V2.0 - Display OpalVision graphics anytime with key combinations.
Opal Presents - Comprehensive, icon - driven presentation package.
Special Limited off er
IMAGINE V2.0 for only **£59.99** when purchased with OPALVISION
Imagine 3D is the most popular 3D rendering software, that now supports OpalVision.This is a full version that would cost £300 if purchaed separately.
"Quite simply, it's a spectacular product *- Amiga Computing*
"Undoubtedly the finest, most professional paint program to arrive on the Amiga" *- Amiga Format*
"Professional quality at this Price can't be turned away" *- Amiga User International*
"The verdict was unanimous - brilliant" *- Amiga Shopper*

INDI PRICE £599.99

OpalVision NEWS FLASH

At Last - OpalVision Upgrade Modules!
OpalVision Video Processor - Plugs into the OpalVision mainboard and adds a waelth of additional features * 24 Bit real - time frame grabber from composite or S - Video. * Professional quality genlocking *VLSI microcode processor "Roaster Cip" for Digital Video Effects. *Luninance & Chroma Keying * 256 - level "Alpha Channel" (transparency) key.Management Software
Full specification available on request
OpalVision Video Suite - An advanced external rack mounted video and audio switching device with it's own internal computer. Includes 9 video and 10 audio inputs, 24 - Bit frame store and a host of special effects triggered manually or automatically.Full specification available on request
OpalVision Scan - Rate Convertor - For 31 Khz non - interlaced output of Amiga graphics, OpalVision images and any Pal or NTSC source. Time Base Correction adds to the list of professional features of a unit that simply plugs into the OpalVisionmain board.Full specification available on request
Amiga 4000 OpalVision Systems
Complete Amiga 4000 / OpalVision systems are available for a range of applications
*Graphics/ Fine Artists * Multimedia * Videographers * Animators * Desktop Publishing * Designers

TERMS AVAILABLE OVER 6, 12, 24, & 36 MONTHS SUBJECT TO STATUS. WHY NOT RING FOR A QUOTE. SAMEDAY RESPONSE. (SEE EXAMPLE)

Panasonic *Quiet* Colour Printing

We researched the colour printer market at great depth to find a colour printer good enough to cope with Amiga's powerful output, yet at an affordable price.
We found the perfect printer in the KX - P2180 and KX - P2123 quiet printers.
We then considered that if you were going to buy a Panasonic printer you would probably need a quality word processing package to use with it. We found that too, with 'Wordworth' yet at a retail price of £129.99 we thought that might be a little too expensive on top of your printer purchase! So together with Panasonic we decided to give a copy of 'Wordworth' free with every Panasonic printer. How's that for added value?

Panasonic KX - P2180



***WORDWORTH COMPLETELY FREE! WITH PANASONIC QUIET PRINTERS.** The writers choice. The ultimate word processor for AMIGA computers. Wordworth is undoubtedly the ultimate word / document processor for the full range of AMIGA computers. The graphical nature of WORDWORTH makes producing documents faster and easier, with the enhanced printing fonts (including full Panasonic KX - P2180 and KX - P2123 colour printing support), Collins spell checker and thesaurus, no other word processor comes close. "Without doubt this is one of the best document processors for the AMIGA, Today" (Amiga Format)
NORMAL RRP £129.99 inc. VAT

The new Panasonic KX - P2180 9 -pin quiet printer. Produces crisp clear text in mono or in 7 glorious colours with new quiet technology. THe new KX - P2180 is typically 15dBa quieter in operation, than the competition.

- **Fast Printing** Speeds 192 CPS NLQ
- **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta,black)
- **Quiet printing** Super quiet 45 - 48 dBa sound level (most matrix printers are typically in excess of 60 dBa)
- **6 Resident Fonts** Over 6,100 type styles using Courier Prestige, Bold PS, Roman, Script and Sans Serif Fonts.
- **3 Paper Paths** Paper handling from bottom, top and rear for total flexibility
- **1 Year Warranty** for total peace of mind

INDI PRICE £189.99

Panasonic KX - P2123



INDI PRICE £239.99

The new high performance Panasonic KX - P2123 24 pin. Quiet colour printer offers leading edge quiet printing technology at an affordable price

- **Fast Printing Speeds** 192 CPS draft, 64 CPS LQ and 32 SLQ.
- **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta, black)
- **Quiet Printing** Super quiet 43.5 - 46 dBa sound level (most matrix printers are typically in excess of 60 dBa)
- **7 Resident Fonts** Over152,000 type styles using Super LQ, Courier Prestige, Bold PS, Roman, Script, and Sans Serif Fonts.
- **24PIN Diamond** Printhead High performance and high quality output
- **1 Year Warranty** for total peace of mind.

Panasonic LASER PRINTER

KX - P4410 LASER PRINTER





WORDWORTH COMPLETELY FREE!WITH PANASONIC LASER PRINTERS.
The writers choice. The ultimate word processor for AMIGA computers
NORMAL RRP £129.99 inc VAT

KX - P4430 LASER PRINTER



Once again INDI have joined together with Panasonic to offer all Amiga owners the most outstanding Laser Printer offer ever. We are now able to offer high quality, professional laser printing at affordable prices. We are also giving away a copy of Wordworth with every Panasonic Laser Printer purchased (RRP £129.99). Whether you are looking for a laser printer to handle word processing, DTP, presentation or complex graphic applications - the Panasonic range offers you the power to meet your requirements.

KXP - 4410
- 5 pages per minute
- 28 resident fonts
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- HP laserjet II Emulation

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*(Satinprinters use optimum resolution technology to produce truly outstanding print quality. This software technique smooths away traditional jagged edges on curved characters and lines by varying the printed dot size

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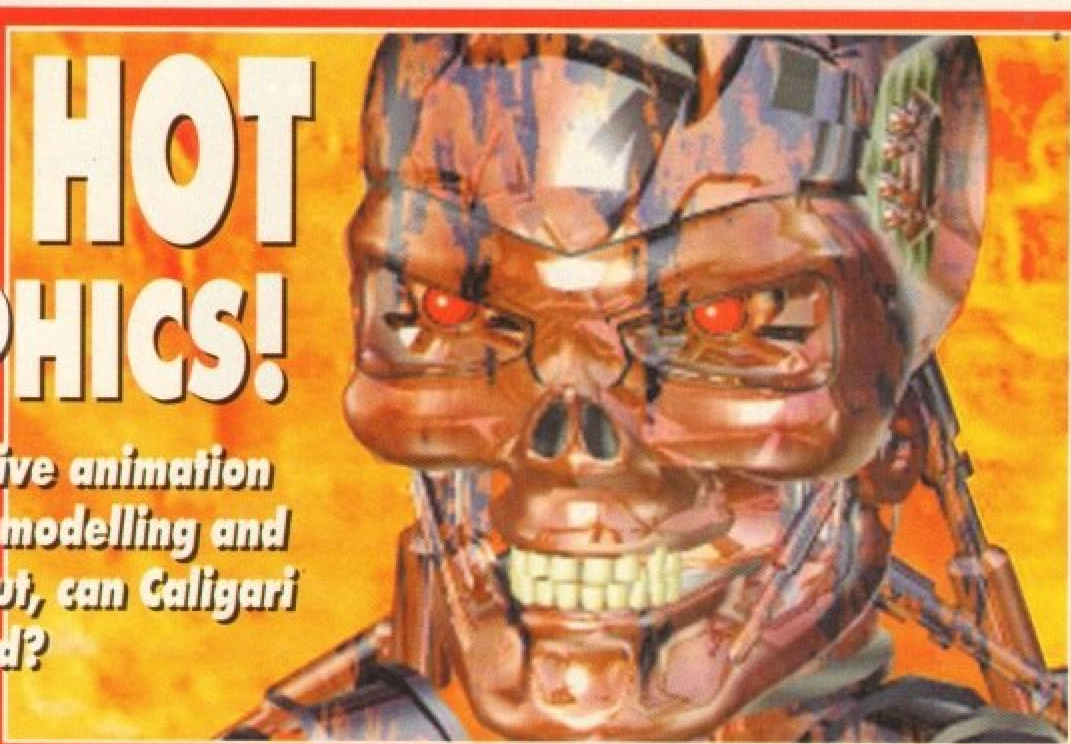
Add £2.50 carriage to all printer accessories or combinations thereof

CONTENTS



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For fast effective animation with solid 3D modelling and stunning output, can Caligari 24 be matched?

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REGULARS

Competition



Page 54

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Try some truly amazing graphic effects with our demo of one of the most powerful processing packages around

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Two superb screen grabbing utilities, one for Kickstart 2/3, the other for 1.3 owners

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TrikTrak
Backgammon with a difference to challenge your old grey matter



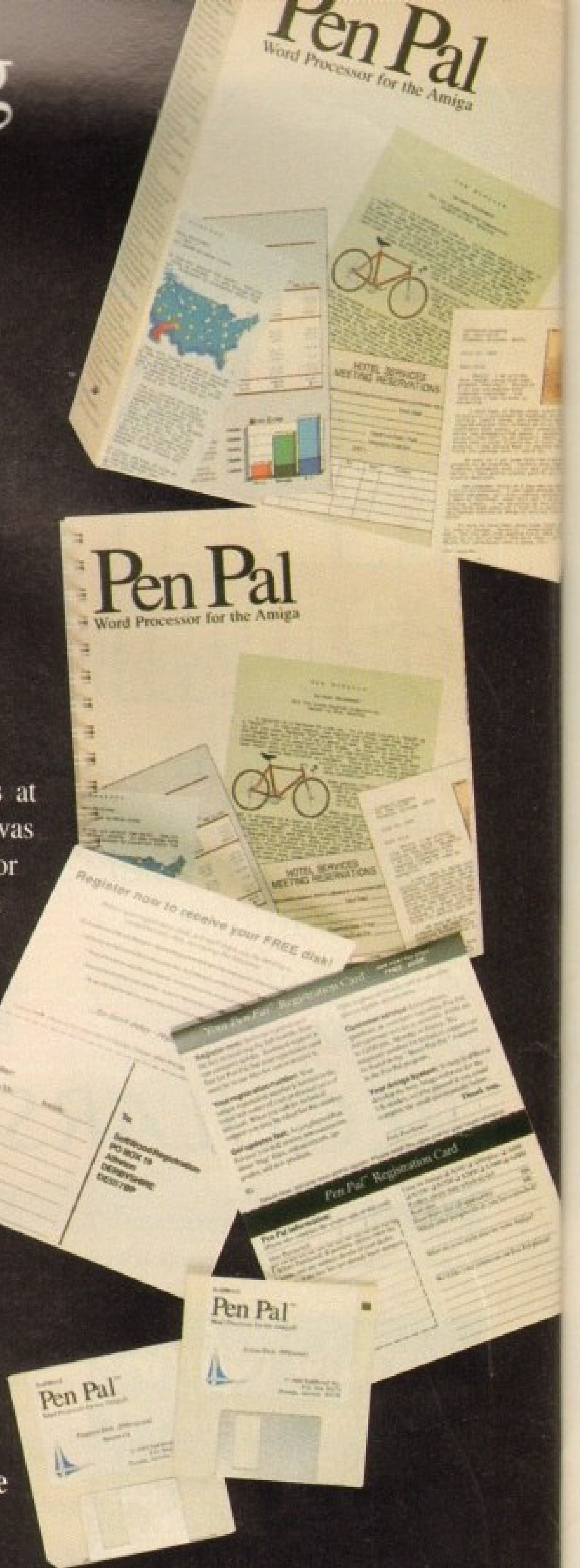
TURN TO PAGE 22



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Pen Pal
Word Processor for the Amiga
Pen Pal
Word Processor for the Amiga

NEWS

by John Butters

Amiga to grab top console role

A 32-BIT CD games system based on A1200 technology will push Commodore to the forefront of the console market when it goes on sale at the end of August for £299.

Amiga CD32 will be Britain's most powerful and cheapest CD-based console, making Commodore believe they can sell around 250,000 of the machines by the end of January.

It will come with two games, a multi-function joypad and, as *Amiga Computing* exclusively revealed in January, the top-loading machine will use a 68020 processor and 2Mb of memory.

Up to 256,000 colours will be available on-screen from a palette of 16.8 million and the Workbench operating system will be resident in ROM.

A keyboard connector and full expansion bus have been included but Commodore refuse to say whether they are developing add-ons needed to build the console into a computer.

But they say a full motion video (FMV) module based on the MPEG standard will be available from around September. It will cost about £199 and be supplied with a disc.

Already most large software publishers have given the console a vote of confidence, pledging their immediate support by detailing a line up of planned titles.

"The global interactive industry is convinced that CD represents the future storage media for games," said Ocean Software's David Ward.

"Commodore have developed the first low price CD video games machine and have stolen a lead over the competition."

David's comments were echoed by other key industry figures at Gremlin Graphics, Mindscape, Millennium, Thalion and Grandslam.

Eighteen games promised in time for the launch include Diggers, Zool 2, James Pond 2, Chaos Engine and Jurassic Park. Disc prices will average £29.99.

Commodore's David Pleasance said: "The Amiga CD32 simply wipes out the opposition. It's considerably more powerful, has better software support and, best of all, costs less.

"With this machine Commodore have once again proved themselves to be the true pioneers of the games business."



Amiga CD32: Britain's most powerful console

Prices tumble in surprise cuts

COMMODORE have just announced surprise price cuts for two 32-bit Amigas, including the flagship A1200, less than a year after their launch.

The A1200 sees a £100 cut, with its new £299 tag aimed at helping the manufacturer reach their targeted 250,000 sales this year.

"Pricing is a key issue in the home computer field," said Commodore boss David Pleasance.

"Following the huge sales of the A600 at £199 and the great success of the A1200/A500 trade-in we decided to look again at the A1200 price point."

David says that the firm want the machine to become a mass market product, and at its new price he expects that process to speed up.

Meanwhile, the powerful A4000/040 with a massive 120Mb hard disk and 6Mb of memory has had its price slashed to £2,099, a saving of more than £360.

Commodore say that since the machine's launch last summer, it has established itself as a favourite with business users in the presentation sector.

The firm claim that high demand even caused a temporary shortage of the computers earlier this year.



A1200: Surprise price cut to £299

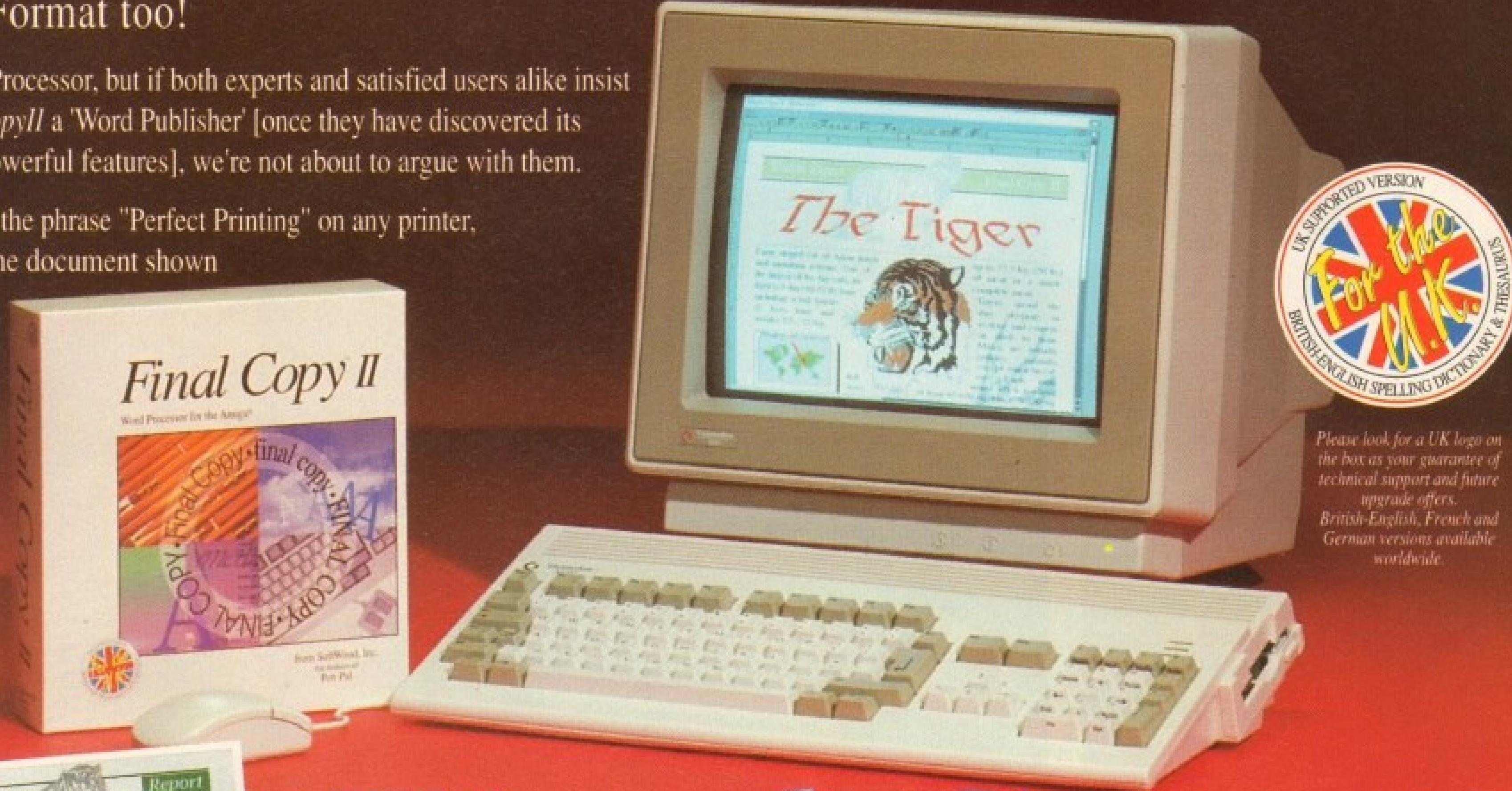
Prices for A4000/030s remain unchanged at £999 for a machine with an 80Mb hard drive and £1,099 for a 120Mb hard disk model. Both have 2Mb of memory.

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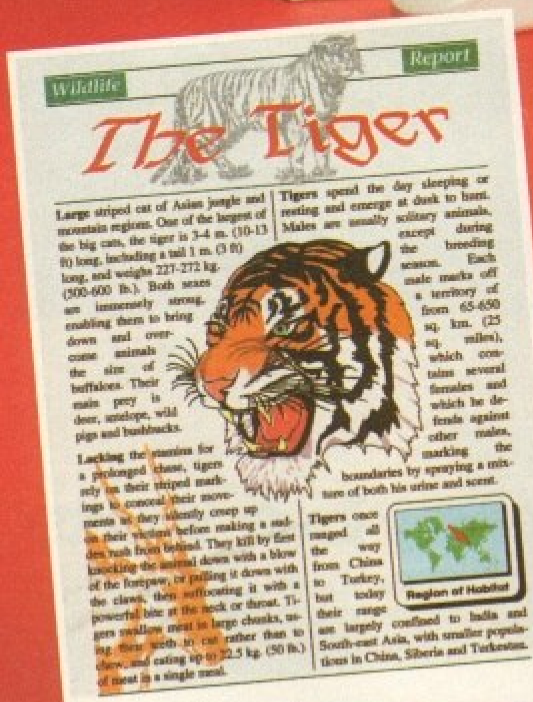
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On-Screen Drawing Tools for generating boxes, borders, and lines or arrows at any angle, Multiple Newspaper Style snaking columns, combined with the unique ability to use the same PostScript outline fonts - on absolutely any printer in portrait or landscape. Text Auto-Flows around graphic objects and imported pictures, which can be placed anywhere, scaled and cropped, with no loss of printing quality. Text can also be printed actually over graphics (refer to "The Tiger" heading on our document).All these features mean that no matter what you may have thought, no other Amiga Word Processor has all the capabilities that *Final CopyII* users now simply take for granted!


Wildlife Report

The Tiger

Large striped cat of Asian jungle and mountain regions. One of the largest of the big cats, the tiger is 3-4 m. (10-13 ft) long, including a tail 1 m. (3 ft) long, and weighs 227-272 kg. (500-600 lb.). Both sexes are immensely strong, enabling them to bring down and overcome animals the size of buffaloes. Their main prey is deer, antelope, wild pigs and bushbucks.

Lacking the stamina for a prolonged chase, tigers rely on their striped markings to conceal their movements as they silently creep up on their victims before making a sudden rush from behind. They kill by first knocking the animal down with a blow of the forepaw, or pulling it down with the claws, then suffocating it with a powerful bite at the neck or throat. Tigers swallow meat in large chunks, using their teeth to cut rather than to chew, and eating up to 22.5 kg. (50 lb.) of meat in a single meal.

Tigers spend the day sleeping or resting and emerge at dusk to hunt. Males are usually solitary animals, except during the breeding season. Each male marks off a territory of from 65-650 sq. km. (25 sq. miles), which contains several females and which he defends against other males, marking the boundaries by spraying a mixture of both his urine and scent.

Tigers once ranged all the way from China to Turkey, but today their range are largely confined to India and South-east Asia, with smaller populations in China, Siberia and Turkestan.

Region of Habitat

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We don't have room to list EVERY feature that *Final CopyII* can boast, so please call for your free DETAILED information pack now.

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Compatible with all Amigas from A500 to latest A1200/A4000 ranges with either second floppy or hard drive.Minimum 1Mb. available free RAM required (A600 hard drive - 1.5Mb). As with all advanced graphical programs, extra memory (eg. 1.5/2Mb. - more the better) is required to exploit all features.

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Tel: (1) 64.97.96.54 Fax: (1) 69.91.19.25

TupSoft - Australia/New Zealand
9 Miller Avenue Hornsby NSW 2077
Tel: (02) 477 5353 Fax: (02) 476 5736

Amiga Oberland - Germany
In der Schneithohl 5 W-6242 Kronberg 2 Frankfurt
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News Briefs

Showing in VGA...

TWO VGA monitors are now available from dealer Silica Systems (081-309 1111) for Amigas running AGA graphics – the Commodore 1940 and 1942.

Both feature stereo sound and sit on a swivel and tilt base. The £299 Commodore 1940 has a .39mm pitch and the 1942 with a pitch of .28mm costs £399.

Blue Ribbon support

A CUSTOMER support service has just been set up by Blue Ribbon Soundworks, makers of music packages Bars and Pipes Professional and SuperJAM.

It is available to anybody in need of information about Amiga music software as well as existing owners of Blue Ribbon programs who require technical advice. Telephone 081-332 6959.

CD plan for A1200

A1200 owners will be given the chance to use compact discs with their machines when Commodore launch a CD-ROM drive for the computer around Christmas time.

Details remain sketchy but the manufacturer's joint general manager David Pleasance has confirmed it will have full motion video capability.

Music comes in a kit

SOUND samplers, Midi interfaces, an audio mixer, and sound enhancements units will soon be sold in kit form by Lancashire-based Omega Projects (0942 682203).

All will be fully documented for the novice and the firm will be offering advice for those people who find that things won't work as expected.

The first product is Sound Trap 3, a sampler which it is claimed gives superb sound reproduction and costs £19.99 plus postage and packing.

Recognition for scanner

POWER OCR, a recent addition to Power Computing's (0234 843388) range of Amiga software, is claimed to use latest technology to recognise characters quickly and accurately.

It features automatic typeface identification to read more than 20 typefaces, and can be trained to remember others.

Context-sensitive dictionaries in four European languages take time-saving decisions about unusual, defaced or questionable characters or words.

Text can be read in 10 to 18 point proportional and monospaced fonts from typeset, typewritten, laser-printed and NLQ dot matrix-printed sources.

The package is compatible with the firm's Power Scanner and costs £49.

CBM say goodbye to PCs

AMIGA users can expect more support from Commodore as the firm prepare to quit the cut-throat PC-compatible market to concentrate on the Amiga range.

The move is part of the massive restructuring programme detailed last month after the manufacturer announced a third quarter loss of more than $177 million.

Commodore's David Pleasance says that by dropping PC products his firm will be able to focus on 32-bit Amiga technology, with all resources going on the machines.

In countries where they are a major PC player – such as Germany – the firm will sell third-party manufactured machines badged with the Commodore name.



PC: Commodore quit to put effort into Amiga

From Amigas grow trees

ORIGINS is a dedicated database for Amiga users who want to keep track of genealogical information. It can store information on over six million people, but according to the program's developer its interface is easy to use by anyone wanting to record their own family history.

The software will handle multiple marriages, step children and unmarried parents, and can report on Persons, Family Group sheets, Pedigree Charts, Descendants Charts and Tiny-Tafels. Its manual contains illustrations and tutorials and within the program there is a word-indexed Hypertext help system to give "online" information.

Two floppy drives are required, although hard drive installation is supported. Price, £75 from The Puzzle Factory (0623 554828).

Police call for porn education

A MANCHESTER police officer has called for Britain's schools to teach computer ethics following a steady rise in the amount of pornography spreading across playgrounds on computer disks.

A range of images can be found, spanning the board from soft core pornography to the most degrading and perverse material featuring children or animals.

In August's issue of *Atari ST User* magazine, Sergeant John Ashley of Greater Manchester Police's Obscene Publications Division says the problem is widespread.

"I'd be surprised if the number of teenagers who have access to pornography isn't a lot greater than teachers and parents realise," he said. "Children owning computers in any school soon get to know each other and swap disks among themselves to the extent that most of them will have copies of each others' disks."

According to Sgt Ashley, education should be a vital weapon in combating computer pornography. "All schools should teach computer ethics," he says. "They're all for teaching children how wonderful computers are, but they should also teach them about the harm they can cause."

Journalist Phil Morse says that pornography comes to Britain as computer signals over telephone lines from countries as far away as Thailand. He says that the way porn is being transmitted and distributed is practically unpoliceable, and the problem is currently spiralling out of control.

Greater graphics

A NEW cut-down paint program and an improved graphics package are due for imminent release by specialists Amiga Centre Scotland (0896 87583).

TV Paint Junior is a 32-bit paint software for users of graphics boards Harlequin and Retina.

According to ACS boss Martin Lowe the package is a "fully-fledged paint system with some of the more advanced features missing."

He said that it works in a similar way to the higher priced version already on sale, although users will find that some of the options have been taken from menus.

And owners of 24-bit graphics board Retina will soon be able to upgrade to version 1.3 of its accompanying software.

Benefits include the 256-colour Workbench support even on non-AGA computers and the addition of 8, 16 and 24-bit animation programs.

Upgrades cost £5, while the complete package sells for between £345 and £499 depending on specification. The price for TV Paint Junior remains to be fixed.

Answer to the memory trap

FOUR megabytes of memory can be added to A1200s using Manchester-based Siren Software's (061-724 7572) new Turbotech A41200 expansion.

The board fits into the trapdoor underneath the computer, and in addition to extra memory is claimed to double the Amiga's speed.

A battery-backed clock is featured and the upgrade is being sold at a special introductory offer of £159.99 until the end of September. Thereafter it will cost £249.99.



Expansion: An extra 4Mb of memory for £159

DIARY DATES

5 to 7 September 1993
European Computer Trade Show
Organiser: Blenheim
(081-742 2828)
Venue: Business Design Centre, London
A trade-only event where new games will be unveiled.

16 to 20 September 1993
Live '93
Organiser: News International
(071-782 6000)
Venue: Olympia, London
A public consumer electronics show. Commodore plan to attend.

11 to 14 November 1993
Future Entertainment Show
(0225 442244)
Venue: Olympia, London
A multi-format computer and console show.

19 to 21 November 1993
International Computer Show
Organiser: Westminster Exhibitions
(081-549 3444)
Venue: Wembley, London
Discounted software and hardware plus product releases.

- If your company is organising a show relevant to the Amiga and it's not listed, let us know so we can include the information in the diary.

Easy digging for dinosaur facts

AS the blockbuster movie Jurassic Park thrusts dinosaurs into the spotlight, online information system CompuServe have just set up a forum for fans of the prehistoric reptiles.

By logging on to the conference, enthusiasts all over the world can find updates on scientific reports, museum events and schedules, current information and conversation.

Graphic images can be viewed on screen and experts – including Matt Smith, the creator of the Snake River dig site for Jurassic Park – will answer questions online.

It costs about £6 per month for unlimited access to 37 basic services during off-peak hours.

Joining 1,700 other areas, including the Dinosaur Forum, with a 1,200 or 2,400 bits per second modem costs about £5.40 per hour extra. CompuServe can be telephoned on 0800 289378.

Citizen find a printing pal

WORDPROCESSOR Pen Pal is being given away with every Citizen Swift 240 dot matrix printer sold to Amiga users before the end of September.

The free package is worth £60 and is part of a summer promotion to celebrate the first anniversary of the machine.

It is a 24-pin model and can print at up to 215 characters per second in draft mode and 66cps in letter quality. It sells for £398, or £421.82 with a colour kit.

"The Swift 240C has established itself as a favourite of both users and the media alike in the field of dot matrix printing," claimed Citizen's Richard Pook.

"With this promotion Citizen are offering users of Amiga home computers an even greater opportunity than before to take advantage of high quality, low cost colour printing."



Offer: Citizen give Pen Pal with Swift 240 printer

MicroProse turbulence clears

FLIGHT simulator specialists MicroProse have merged with Spectrum Holobyte, with the later now owning a majority stake of 60 per cent in the firm. The move gives MicroProse funding of $10 million just months after the company announced a net loss of $5.3 million for the year ended March 31.

The loss has been blamed on a late entry into the booming console market, an unsuccessful venture into arcades, delayed product launches and increased overheads dragged the firm down.

The company's spokesman Jason Dutton said: "Spectrum Holobyte have long been respected in the flight sim market, and this merger broadens our range of quality products."

Boost for CygnusEd

TEXT editor CygnusEd Professional has just been upgraded to version three, offering latest Workbench compatibility, support for several languages and new features.

They include the inclusion of a macro editor, a system clipboard to enable blocks to be shared with other programs and a better search and replace facility.

Outside the software, the package's manual has been enhanced and its pages re-typeset for better quality.

Existing owners can upgrade for $45 if they live outside the United States, or $35 within the US. The price for newcomers is $119.95 from ASDG (010 1 68 273 6585).

HB Marketing collapse

LONGTIME distributor of serious Amiga software HB Marketing have gone into liquidation following the collapse of their parent company, Direct Marketing International plc.

The company's former managing director Keith Howells blames the failure on an accounting problem in the firm's leisure development area.

He says DMI were in a shrinking market, and faced increased competition when MicroPACE entered the Amiga peripheral and software distribution market.

Anybody with outstanding orders should contact the liquidators, Begbie Norton on 071-430 2321.

Now HiSoft buy Microdeal

BEDFORD-based HiSoft (0525 718181) have extended their commitment to the Amiga market with the recent take-over of Microdeal.

The move comes just weeks after the firm bought AVR, the makers of several hardware gadgets previously marketed by Microdeal.

"This a logical step for HiSoft," said the firm's boss David Link. "Since as a publisher as well as a software house it is natural for us to produce the complete AVR product line in house."

"From Microdeal's point of view it was an inevitable move to consolidate their products under our umbrella since we controlled the AVR hardware, a major part of Microdeal's range."

Products will be produced and distributed from HiSoft's office and existing software contracts have been transferred to the firm. The Microdeal brand name will continue.



VTClock: Video editors do it with clocks

Editors to start clock watching

VIDEO editors are targeted for Zen Computer Service's (061-793 1931) latest Amiga program, an ident clock featuring a 30-second analogue clock and seven lines of text on screen.

VTClock can count down from 10, 15 , 20 or 30 seconds and generates a tone between 25 and 20 seconds. A white flash-frame appears at ten seconds.

The screen will go black at a user-definable time between 9 and 0 seconds, and remain so for a further three seconds after zero is reached.

Ident text can be edited using a simple wysiwyg editor and any Amiga font can be displayed. Cost: £35.25.

ANNOUNCEMENT

KCS POWER PC BOARD

For The Amiga

MAKE YOUR AMIGA IBM COMPATIBLE

KCS announce that due to COMMODORE having discontinued manufacture of the Amiga A500 and A500 Plus, the price of the Power PC Boards has been ***DRAMATICALLY REDUCED!***

KCS Power PC Board for A500 **£89.95** incl VAT. Postage **£3.60** extra
KCS Power PC Board for A500P **£89.95** incl VAT. Postage **£3.60** extra
MS-Dos 4.01 can be supplied at the special low price of **£29.95** plus **£6.60** postage

"PC emulation is a contentious issue – but the KCS Power PC board is the only one to carry my personal recommendation. It is an excellent product that does all it claims and does it well." comments Mark Smiddy, co-author of Mastering AmigaDOS 2.

The above offer is subject to availability, and can only be obtained direct from Bitcon Devices. Prices subject to change without notice. At these low low prices a Help-line service will not be available from Bitcon Devices Ltd. However, should advice be needed, you can contact KCS direct for help (details below). Alternatively, you could join the KCS INDEPENDENT USERS GROUP (details below). This club has no connections with KCS or their agents whatsoever.

All KCS products carry a full 12 month guarantee (through Bitcon Devices Ltd). Refunds only possible on faulty products and within 30 days from purchase. After 30 days, we will repair or replace at our discretion. No refunds under any circumstances on MS-DOS. Reluctantly due to the low mark-up, all credit card transactions will carry a 2.2% surcharge. (Please allow up to 28 days for delivery).

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Kuipershaven 22 ....Fax: 010 31 78 312650
Dordrecht 3311 AL Holland

KCS Independent Users Group...Tel: 091 460 7814 (Between 10-4)

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(due shortly)



In Amiga mode:

(no PC Board necessary)
Suitable for all AMIGA models: 500/500P/600/1200/1500/2000/3000/4000
Capacity: 880Kb/1.76Mb/appr. 2Mb
4Mb by means of realtime compression.
Read and write in High Density mode runs two times faster than a standard disk drive.
Compatible with the software of Synchro Express, Cyclone and Blitz.
Highspeed copy in appr. 25 seconds in Low as well as High Density format.
KCS Backup program for hard disk backup of Amiga as well as PC partition (up to 4Mb on 1 disk).
Hardware NO CLICK.
KCS File system for read/write of MS-Dos diskettes in both Low and High Density format, and also read/write of PC partition(s) in Amiga mode.

In PC/MS-Dos mode:

Suitable for all Amiga models in combination with the KCS Power PC Board.
Capacity: 720Kb/800Kb/1.44Mb and 1.6Mb.
Read/Write in High Density mode runs two times faster than a standard disk drive.
Track display.

Approx £199.99

KCS DUAL HD-DRIVE HAS AN ON/OFF SWITCH AND LOW POWER CMOS TECHNOLOGY.

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Cull at Commodore

Denny Atkin reports from the States on Commodore's latest difficulties

Black Friday hit Commodore again in June, when a large portion of the West Chester, Pennsylvania development staff was laid off, including a number of old-timers and folks who were vital to the development of Workbench 2 and 3.

Some staffers actually asked to be included in this latest round of layoffs, because they were concerned about losing accumulated vacation time credit or because they had already lined up other opportunities.

Among those who left the company were Lauren Brown, who has long been one of Commodore Applications and Technical Support's (CATS) Amiga evangelists; Mike Sinz, the man responsible for recent updates of Workbench and for Enforcer; and Brian Jackson, who had been working on networking software for the Amiga.

Sinz has moved on to do development for SCALA Inc. Although many other programmers and engineers were given their walking papers, Commodore development hasn't shut down completely – many other talented people are still left, including Dave Haynie, Martin Taileffer, Spencer Shansson, and Peter Cherna.

Still, when a company is having financial troubles, cutting the people who help make your products some of the best on the market doesn't seem like the logical solution.

Meanwhile, Commodore's stock value has plunged after their recent huge loss. The company is banking on a big turnaround after they announce the CDGS system (also called Amiga CD32). This could indeed happen – Atari's stock value has risen greatly here in the States after they announced a $500 million deal with IBM to manufacture the 64-bit Jaguar games console.

But the Jaguar is a cartridge system, and industry pundits are placing the future on CD-ROM, something CDGS has and Jaguar doesn't.

Another dimension

Do you spend most of your time with your favourite 3D program not rendering, but trying to create basic objects? Why do all that work when there are many great freely-distributable objects out there already?

The Syndesis 3D-ROM is a CD-ROM that contains more than 500 freely distributable 3D models stored in a number of different formats for Amigas and other computers. Created using Syndesis' InterChange Plus program, the 3D-ROM contains versions of each object in NewTek LightWave 3D, Impulse Imagine, Wavefront, 3D Studio, and AutoCAD formats.

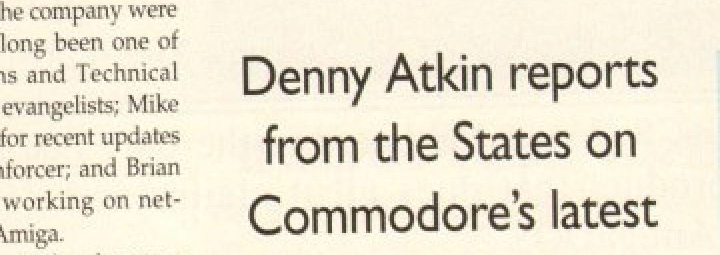
If you own InterChange Plus, you can also port the objects over to Sculpt 3D, VideoScape, CAD-3D, PAGErender, and VistaPro DEM formats.

These aren't cheesy, boxy objects either. Many are from well-known commercial modelling companies such as Viewpoint, VRS Media, Mira Imaging, and Noumenon Labs.

Also included on the disk are more than 400 tileable, wrappable texture maps and a fully-indexed, cross-referenced object catalogue. Because the disk is ISO9660 format, it can be read by an Amiga with a SCSI CD-ROM drive or A570, a CDTV unit, or a Mac or PC.

For more information, contact Syndesis, P.O. Box 65, 235 South Main Street, Jefferson, WI 53549; phone (414) 674-5200; fax (414) 674-6363.

Landscape generators get updates



Scenery Animator 3

Hot on the heels of VistaPro 3.0 are updates of two other landscape generator programs, proving once again that if you want to create your own universes, you just can't beat the Amiga. VistaPro's closest competitor, Scenery Animator, is now at v3.0. The biggest change in the update is support for AGA graphics modes, including 256 colour and Ham8, for both pictures and animation.

Seeing a Scenery Animator animation play in Super hires Ham8 with moving clouds and shadows is just mind-boggling.

But developer Brent Casebolt didn't stop there. The new version will also load VideoScape .obj files and let you place them in your scenes – see the illustration with F-117 Stealth Fighters for an example.

No more having to load a paint program to composite your 3D landscapes and objects. You'll find tonnes of VideoScape objects in the public domain, and most object-editing programs will create them as well.

Along with the new graphics modes and object rendering, the program has a number of other minor tweaks and enhancements. You can now place trees either manually or automatically, and the preview mode has been significantly sped up. Night scenes cna be rendered, complete with accurate constellations. And it now loads VistaPro-format DEM landscape files.

Although it doesn't have an ARexx port, the built-in animation interface is so easy to use that the majority of users will never find the lack of scripting a problem.

The program requires 3Mb of RAM and retails for $99.95. It's available from Natural Graphics, P.O. Box 1963, Rocklin, CA 95677; phone (916) 624-1436; fax (916) 624-1406.

Also new on the market is Panorama v3.0. What, you say, v3.0? But I never heard of versions 1 and 2! Well, you may have.

In an earlier life, the program was the original landscape generator for the Amiga, MicroIllusions' Genesis, the Third Day. Although the program has grown in capability dramatically since its first release, it doesn't quite match VistaPro or Scenery Animator in the output quality department.

It doesn't render into AGA modes, but you can create pictures in AGA screen sizes, save them as 24-bit IFF files, and use a program like ADPro or the shareware Rend24 to render the pictures in AGA modes.

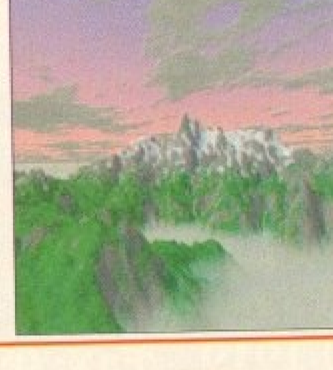
Although the package isn't quite as up-to-date as its competitors, it does have some nice features. It will render pictures in up to 8,000 x 8,000 resolution (memory permitting), and offers really neat control over water in the picture – the waterfalls are just amazing.

And while Panorama's landscapes might seem a bit more artificial than the others, its fog effect can't be beaten – this program lets you simulate ground fog and haze, instead of just hazing out the entire picture.

It doesn't directly load DEM files, but includes a utility called GeoRama which will load and combine DEM them. There's plenty to play with here, too – the package includes three disks packed with DEM files and example pictures.

An ARexx port can be used to automate rendering to other boards such as the Video Toaster or FireCracker 24, or to create animated passes over the landscapes.

Panorama is available from Push-Button Publishing/ Inventure, 114 Market St., Morrison, Colorado, 80465; phone (303) 697-5270; fax (303) 697-5260.



Vista Pro 3.0

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High noon for Sonic?

With arrival of the Amiga CD32, that hedgehog better get outta town while the going's good

A press release landed in the *AC* offices today describing a game that until now would have been impossible to produce on the Amiga. Full 256-colour backdrops, megabytes of digital stereo music, acres of animations, and all on one disc.

The CD32 release of Diggers from Millennium is important in two ways. First, it is one of an initial wave of about 20 titles which will be released for the new Amiga (see this month's news for full details of this spectacular new machine) to take full advantage of the potential offered by an AGA chipset married to a CD drive.

Secondly, it is released one full month ahead of the A1200 version despite the fact that there will be many more A1200s in circulation than CD32s on the game's launch day.

It is obvious from the enthusiasm with which games houses have greeted the new machine that it cannot help but be successful, and it is this sheer enthusiasm which will drag CD32 past the chicken-and-egg barrier.

On the launch of any new hardware platform, the most important question is always going to be "how much software support does it have"? and only games companies can provide the answer.

If there is no software support a machine will fail, and if the machine doesn't sell, no software company will put money into developing software for it.

This is the chicken-and-egg barrier, and it is one which Commodore seem to have successfully negotiated. Several major software houses have been working in secret with prototypes for almost a year to develop real CD titles which take advantage of the machine, such that on its July 16 launch the proud parent company was able to show off a range of 16 brand new games.

Taken in combination, CD32's AGA capabilities, fast 300k/s CD drive, and imminent MPEG add-on should make existing Sega and Nintendo consoles look very old indeed.

The world's first 32-bit CD console is streets ahead (for the moment) in hardware, and with the huge base of Amiga-literate software houses out there, many of whom have already started to write their company's second CD32 release, the software will quickly make Mega CD owners green with envy.

New consoles, such as 3DO, will close the gap somewhat, but it is unlikely that there will for a few years be any development past this sort of technology level in the console war. There is nothing like establishing a large user base and milking it dry to make those balance sheets look rosy, and constantly changing your hardware is no way to build up a user base.

The one dark cloud on Commodore's horizon is the spectre of Japanese marketing muscle. With the best will in the world, it is difficult to sell a product to compete with Sega and Nintendo if the two giants have marketing budgets many times in excess of your own, even if your technology is superior.

Remember Betamax video recorders, that classic case of superior hardware losing out to viciously marketed but inferior competition?

AMIGA GAME FANS

Commodore, realistically accepting that they will not be able to out-advertise their oriental competitors, are putting their faith in the legions of Amiga game fans and the brand name of what is still the most popular home computer in the world.

If high street dealers and the independent shops – which are the life blood of the Amiga industry – pick up CD32 and simply demonstrate it to the public, say Commodore, sales are guaranteed.

So confident are the Maidenhead crew that they predict sales in the hundreds of thousands world wide after only a matter of months, and are putting great efforts into MPEG and CD32-compatible drives for the rest of the Amiga range.

If Commodore can be believed, the drive for the A1200 will appear before or around Christmas, though if the A570 saga is anything to go by "Christmas" might stretch to next Easter.

Commodore's sales predictions are probably a bit over-optimistic, designed perhaps to add to press hype and launch day excitement than anything else. However, it takes only a second or so to work out that the latest Amiga has one priceless advantage over every one of its predecessors. It is virtually pirate-proof.

Though large scale piracy will always be a threat, such criminal rackets are identifiable and can be policed. It is the computer club and the school dinner time which will cease to pose a commercial threat once CD becomes the norm for games.

The inevitable, and marked, superiority of CD games over those restricted to a few floppies will force game lovers to migrate to CD32, and as every game they buy is unpiratable, the games companies will be able to recoup their development costs without worrying about every game sold ending up in dozens of Jolly Roger disk boxes.

In theory, therefore, CD will be better for the punter, offering much better games, and better for the industry.

We might even see some of the US companies who have abandoned the Amiga come back into the fold now that they needn't worry about piracy.

How much improved would the Amiga leisure scene be if the majority of games sold were full AGA 256-colour titles with massive scenarios, superb stereo music, and graphics to stop a bus load of bored school kids at 100 paces?

If all else fails, we should see the end of a long running issue within the piracy debate. Many representatives of the software industry have, over the years, stated that piracy was the main reason for software prices soaring to their present ridiculous levels.

With the advent of CD32, this excuse will have disappeared, yet predicted prices for the first batch of games point to a price range of £20 to £40, more or less exactly the same as floppy-based games. What is wrong with this picture?

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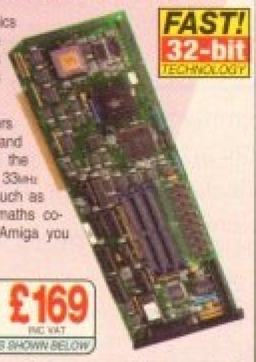
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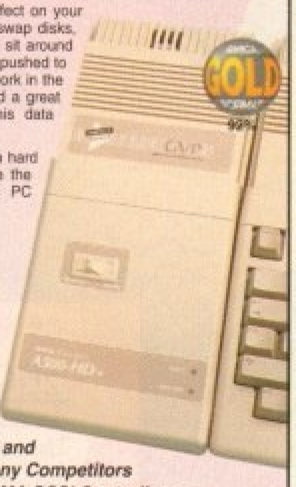
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FOR A1500/A2000/A3000/A4000



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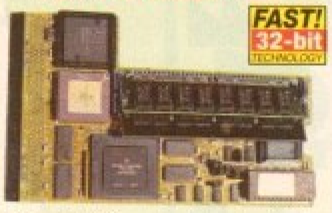
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FOR THE AMIGA 1200

FAST! 32-bit TECHNOLOGY



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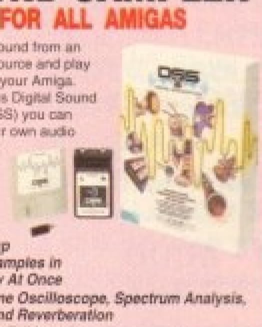
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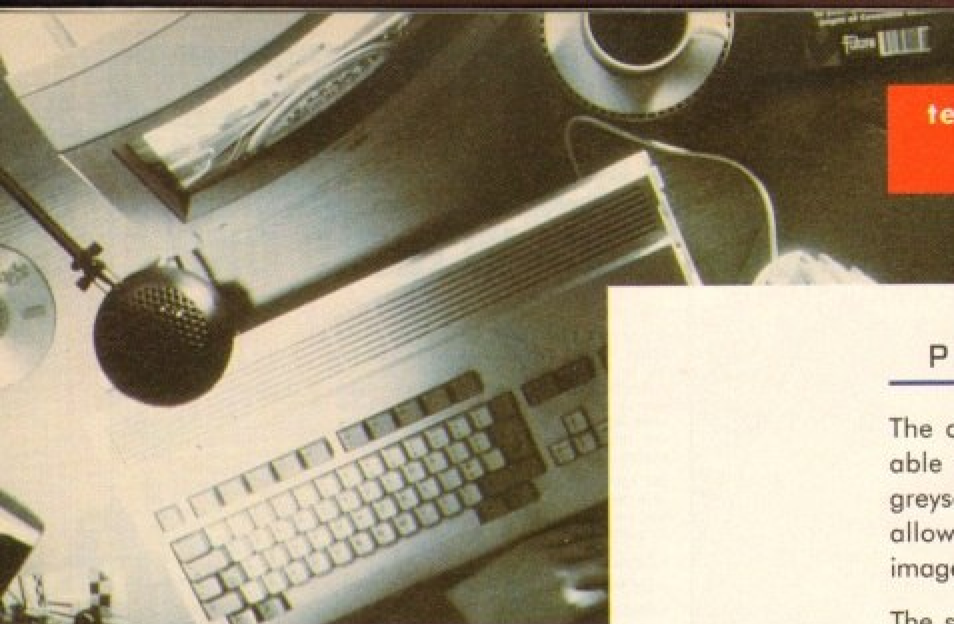
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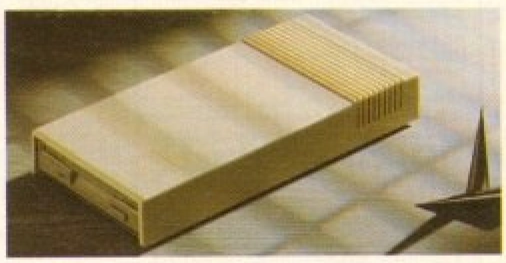
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the DISK

Using Image FX, you can take any Amiga image and add a plethora of creative strokes in an instant

Creative pictures

ImageFX is one of the very latest image manipulation packages to be produced by those inventive chaps at GVP. Obviously, we couldn't get hold of a fully working version for the CoverDisk so a save and print disabled version, with a limited number of load modules, will have to do. Even so, it should be sufficient to whet the appetite of even the most technologically shy Amiga owner.

Once the program is up and running, the first thing we need to do is load a picture to process. Clicking on the Load button, located under the histogram, brings up a window showing all the files and directories on the CoverDisk.

Select the Pix directory using the mouse or enter the word Pix into the requester. There is only one file in this drawer so select it and click on OK.

After a few moments a requester will appear asking whether to enable cross block smoothing. This is a technique which will enhance the appearance of the image so click on the Yes button.

When the picture loads, the bottom half is obscured by the control panel. To preview the entire picture, move the mouse pointer over the water hen and press the right mouse button. Although it is displayed in mono, the picture is stored in a 24-bit buffer in colour.

To see what it looks like, press the right mouse button again to return to the control panel then click on the Prefs button (directly under Load). Select Preview Options from the list of options, then HAM. Click on OK followed by Use, and the picture will be redrawn in colour.

Above the progress chart are four small square buttons. The group of three are used for zooming while the other is used to flip to the Workbench screen. Click on the plus sign to zoom in, minus to zoom out and 1:1 to restore the picture to its original state with a single click.

Right, let's get down to generating some startling effects using the facilities available to us. Select Effect from the toolbox then Wave Distort. For the time being, ignore the set of parameters that appear and click on OK. After a short delay, a requester appears for the amount of distortion. It is preset at 32 percent which should do nicely so click on OK and sit back and let your Amiga go to work.

Hopefully, the picture should now look as though a stone has been thrown directly onto a reflection of a water hen.

Restore the picture by clicking on Undo then click on Effect again. Select Roughen and set the slider to 255 then click on OK.

ImageFX memory requirements

Please note that the ImageFX Demo requires at least two megabytes of RAM in order to run. Hard drive owners with this amount of memory should disable their drives before trying to execute the demo.

Bobby

Author: Martin Round

Although this is an old Workbench hack, written way back in 1990, we feel that the majority of our readers are unlikely to have seen it before.

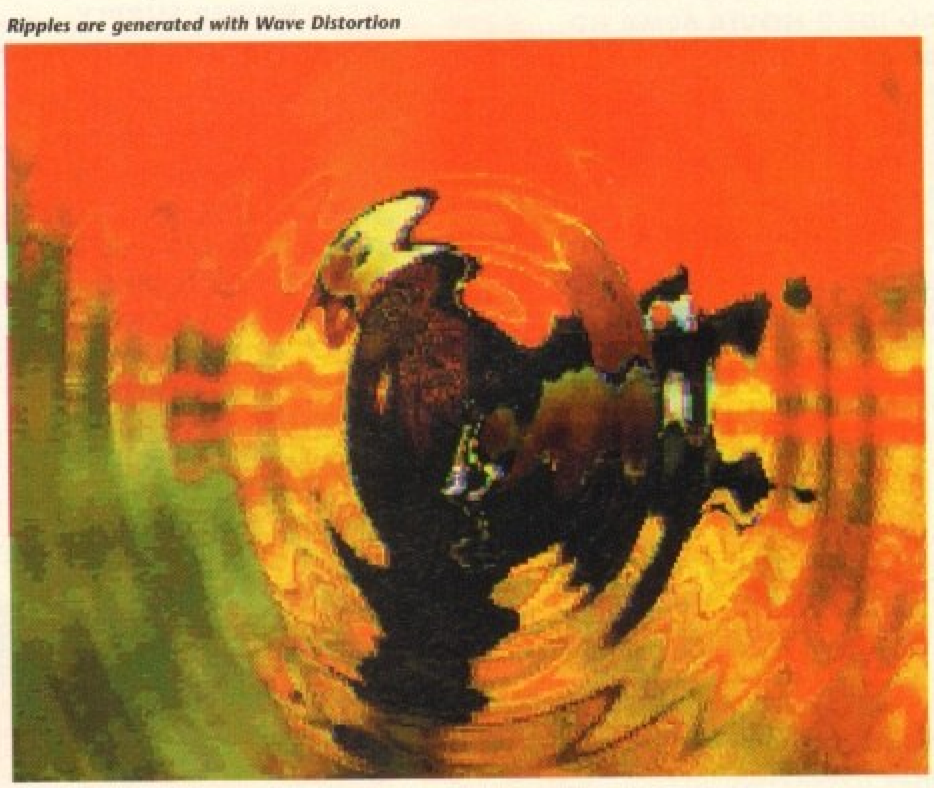
Bobby is a cute character who wanders aimlessly around the screen clambering over text and anything that has been drawn with an odd numbered colour. His existence is hampered by two decidedly deadly things: long falls and sprites.

Since the mouse pointer is a sprite, it is extremely lethal. If Bobby is inadvertently killed off, he spends a short spell in Sprite Heaven before being reincarnated in his window. The time span between lives is random but tends to be no longer than one minute.

By default, Bobby is controlled by the computer but it is also possible to control him using a joystick. To do this, click in his window then select the joystick option from the menubar at the top of the screen.

When run on a Workbench 3 machine, Bobby is not displayed properly if the CoverDisk is used to boot the system. However, the program does work correctly if the Amiga is initialised with the Workbench disk.

Ripples are generated with Wave Distortion



QuickGrab

Author: Steve Hines

This is a neat little utility that can capture the screen display and store it as an IFF picture. Part of the design specification was to make it a Workbench 2 (and upwards) program. As Amiga Computing still supports Workbench 1.3 Amigas whenever possible, we have included ScreenX on the CoverDisk which is a similar utility.

Quickgrab resides as a background task with no visible window. The control panel may be accessed at any time simply by clicking on the program's icon.

Grabbed pictures are usually saved to Ram: but they can be saved to any device by clicking on the Save Directory field and entering a path. For example, hard drive owners may have a directory set up called Piccys, so entering:

```
DH0:Piccys
```

in the box will result in pictures being saved to that directory.

Alternatively, clicking on the disk gadget at the end of the Save Directory field will allow you to chose a directory using the mouse.

Using this method has the advantage that details about volumes are displayed. To view this information, click on the bottom right corner of the window and drag it to the full width of the screen.

If you have just tried this, you will have noticed that the CoverDisk is very full so save the IFF files to somewhere else! Although the RAM: device is listed as being 100 per cent full there should be plenty of space available.

Memory is shared between programs, so it would be silly to allocate a large, fixed amount of memory exclusively for the Ram: device and not use much of it. Therefore, the operating system adjusts the size of RAM:, so that it is just large enough to hold the files that are stored there. Consequently, it is always 100 per cent full.

Each grab is stored using the same base filename but with the number of the grab appended as a filename extension. For example, a series of three grabs, would be stored as:

```
QuickGrab.000
QuickGrab.001
QuickGrab.002
```

The base filename can be changed by activating the field and entering a new one.

A hotkey is used to tell QuickGrab to capture a screen and this is usually the key combination: Ctrl, Left Amiga and S. Again, it is possible to configure this to another combination. For example, entering:

```
Shift rcommand g
```

changes the hotkey to Shift, Right Amiga and G.

A time delay can be set between pressing the hotkey and QuickGrab capturing a screen. This is particularly useful for grabbing screens from games that require both hands to be used at the same time. And why should you want screen grabs of a game? Well how about printing them out and creating an incredibly accurate map?

Quickgrab displays an irritating message when it grabs a screen and this shows up on the IFF picture. Fortunately the author was kind enough to include an option to disable this feature.

Finally, there are two other options on the control window, Hide and Quit. Hide is used to remove the control window, leaving QuickGrab activated, while Quit completely kills the process.

CoverDisk Hotline

Amiga Computing operate a CoverDisk hotline on 0625 859766 to help anyone experiencing problems. It is ONLY available on Thursdays between 2-5pm so please do not try to call us at any other time as you won't get an answer

Triktrak

Author: Walter Verbrugge

Triktrak is a variant of the ancient game of Backgammon but has slightly more relaxed rules. Each player has fifteen counters that they must move around the board. They must all be taken to the compartment that their opponent started from, before removing them from the board. The player who has no counters remaining wins the game.

There are a few simple rules and instructions which are explained in the accompanying document file. By far the best way to learn how to play is to watch a demo of the computer playing itself. Once familiar with the concepts, the game may be played against either a human or computer opponent.



Can you beat the computer?

The result is reminiscent of a Swap Shop screen saver so let's try that again and choose a smaller roughness value – say 110. This time, quite an interesting mosaic effect is created.

Now use Undo to return to the original picture, or if you have made more than one change, simply load the demo picture again. If you have just reloaded the image, follow the steps described earlier and ensure that the screen mode is set to HAM.

Let's crop the image so that we have a close up of the hen and its reflection. Click on the size button and select Crop from the options provided. Click in the box closest to the word Size and enter 200 as the x dimension. Similarly, enter 175 for the y dimension.

To view the position of the crop lines, move the mouse pointer over the picture and press the right mouse button. Don't worry about the messy lines that appear over the picture, they are not permanent and are only a side effect of using HAM mode.

As you will see, the box size is all right but it is not over the area that we want. The offset values are used to move the box around the screen, so let's enter some values. Ninety and 25 should do nicely, so enter these values and click on the crop button.

Now for something really interesting. Click the Convolve button on the Toolbox then Relief Map from the Convolutions list. However it is achieved, this is certainly a stunning effect!

At the moment, the water hen is looking to the left of the screen but what if we wanted it facing the other way? Well that's no problem at all, because ImageFX has a facility for that too.

Next to the Convolve button is one labelled Transform. There are five options under this heading and in our case we need Flip Horizontal.

The flip and mirror options should be self explanatory but Roll needs a little explanation. Imagine that you have been given an image against a plain background but that the object is too far over to the left for your liking.

Roll can rectify this by shifting the picture across the screen and wrapping it around on itself. ImageFX is also capable of performing this operation vertically, or both horizontally and vertically at the same time.

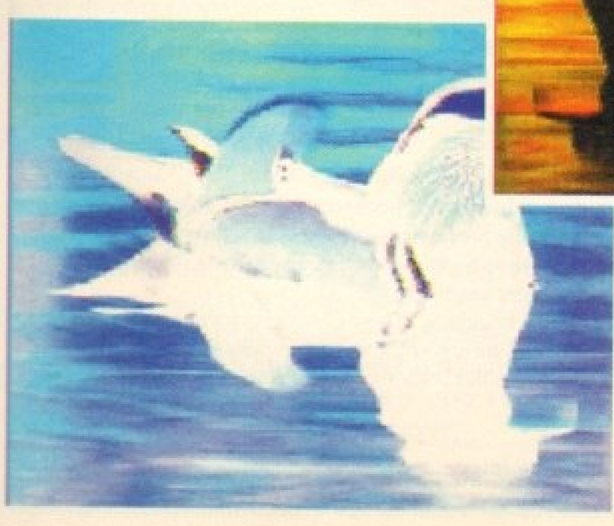
OK, we haven't got an image with a plain background but that's no excuse for not playing around with this function. Click on transform again and select Roll. Move the horizontal distance slider to 130 and click on OK.

When the vertical distance requester appears, it should already be set to zero so just click on OK. The result is that the picture scrolls to the left with the truncated piece wrapping around as though it were looped over two rollers.

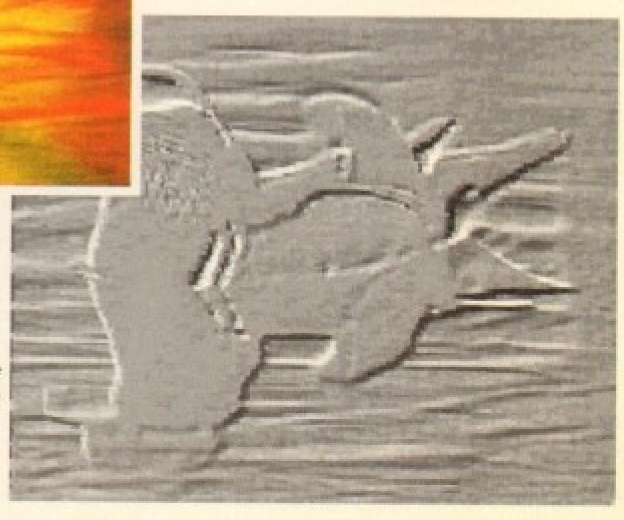
To restore the picture, ➤



The cropped hen...



...in negative



...and relief mapped



repeat the procedure but set the vertical slider to -130. When these sliders are dragged, they change the roll offset by adding (or subtracting) two. If more accuracy is required, click to one side of the slider and the change will be an increment or decrement.

Finally, we'll take a look at a couple of instant colour effects. Having played around with the demo image, we need to load a fresh picture in again. By now, you should be familiar with how to do this so we won't bore you with step by step instructions.

Once it has loaded, click on the Colour button and select Negative. Pretty isn't it? Now select Undo followed by Solarize. False Colour is quite nice too, so give it a whirl with the Use Standard option. There are plenty of other effects to try but we'll leave these for you to explore on your own. Have fun!



Sunny Solarization

ScreenX

Author: Steve Tibbett

This is another screen grabber that has been included for the benefit of Workbench 1.3 users. It opens a title bar which displays the current system time together with information about available memory. To access the options, click on this bar then press the right mouse button.

The title and dimension of each open screen is displayed on the left-hand side of the window while the operations that may be applied to them are on the right side. Before selecting an option, a screen must be chosen by clicking on its title.

Pop to Front and Push to Back are used to change the order of screens in much the same way as the gadget in the top right of most screens. At first glance these may seem to be redundant features, but not all programmers implement this facility in their programs so it is actually quite useful.

Rather than waste valuable processor time by automatically looking for freshly opened screens, the author has elected to include a user option to update the screen list.

There is also a facility to close screens. Programmers should find this invaluable when working on bug-ridden code that fails to clean up the system properly. Some caution is needed though, as any program that tries to use a closed screen is likely to crash the Amiga.

The main purpose of ScreenX is to grab a screen and save it as an IFF file. Unlike QuickGrab, it does not automatically generate file names so these must be entered before making each grab. To do this, click in the filename field at the bottom of the operations list then enter a meaningful name.

Exiting ScreenX is achieved by clicking on the close gadget, at the top left of either the main screen or the menustrip.



A roughened image

Faulty CoverDisk?

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View

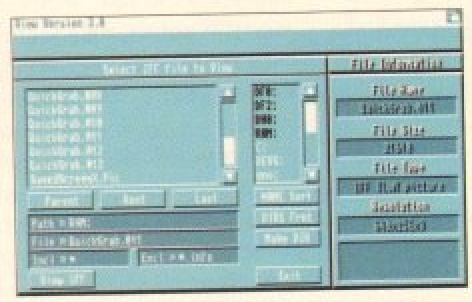
Author: Michael W Hartman

View can be used to display both IFF pictures and animations. For those readers who do not own DPaint III it is an ideal way to see the results of using CineMorph Junior, which we gave away last month.

Use either Quickgrab or ScreenX to generate an IFF file stored in RAM: then load up view.

In the centre of the control panel, there is a list of physical and logical devices. Click on the word RAM:, to see a directory listing, then on the name of the file you want to see. Now select View IFF, at the bottom left of the panel, and the file will be displayed.

To return to the main screen, press either the space bar, left mouse button, or the escape key (Esc).



View control

Think you can do better?

Want to be famous? We are always on the look-out for quality Amiga programs for the CoverDisk. If you think you have written something good enough for others to share and enjoy, please send it in and we'll have a look.

The *Amiga Computing* CoverDisk is used by thousands of Amiga owners every month in places all over the world from New Zealand to the USA, so if your submission finds its way onto the disk, you could be famous.

Please make sure that you list ALL library and other files necessary for the program to work. Feel free to design your own icons for programs that run from Workbench, but please don't make them too big.

If you ensure your program is as compatible as possible with a wide variety of Amigas, it will also stand a better chance of publication. We are especially interested in small programs whether they be games, utilities or whatever.

We are prepared to pay our current rates for original work which has not been distributed in any other way and which has not been put in the public domain.

If you wish your program to be released as shareware or freeware we will be happy to publish it, but would, of course, be happier if we had been given it first!

Your submission MUST be accompanied by the submissions form, a copy of it, or a signed declaration to the same effect. Please supply your full name, address and phone number.

Unfortunately we cannot undertake to return disks sent to us as the volume of submissions makes this an impractical exercise.

Post your submissions WITH A COPY OF THIS FORM to:
Colin Yarnall, Amiga Computing, CoverDisk Submissions,
Europa House, Adlington Park, Macclesfield SK10 4NP.

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....

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The *Amiga Computing* CoverDisk is designed to be as simple to use as possible. Follow these instructions and you'll be up and running in no time!



New readers may have difficulties using our CoverDisk, so we have included this page to help you out.

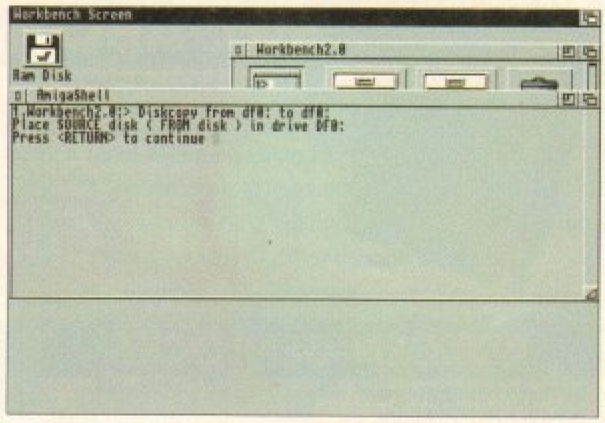
Below we explain how to copy files from one disk to another, how to copy the entire CoverDisk and how to de-archive programs. none of the first things you must do when get your CoverDisk is make a backup copy, then put the original CoverDisk away for safe keeping. As a rule you should also do this with the majority of your software collection.

How to make a backup

To copy the entire CoverDisk, load up your Workbench disk, then either click once on the CoverDisk icon and select Duplicate, or select Copy from the Workbench menu, or open CLI/Shell and type:

```
DISKCOPY FROM DF0: TO DF0:
```

When prompted, put your CoverDisk (the source disk) in df0: and be ready to replace it with your blank disk (the destination disk). Follow the Amiga's on-screen prompts until the disk copy is completed. Now put the original away in a safe place and use your backup.



Copying individual files

You might at some point want to copy a single program from a CoverDisk to your compilation, Workbench disk or even your hard drive.

To do this you'll need the COPY command. As most CoverDisk programs are stashed away in their own directories, the quickest way to copy a program is to copy the whole directory at once. Use the command:

```
COPY {directory} TO {newdisk} ALL
```

where {directory} is the full pathname of the directory you wish to copy, and {newdisk} is the name of the disk and directory into which it will be copied.

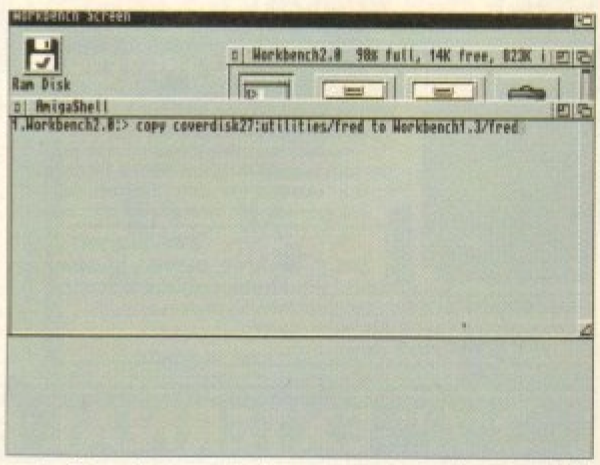
For example, if you wanted to copy a utility called FRED from CoverDisk 27's Utilities drawer to a directory called FRED on your Workbench disk, you'd type:

```
COPY COVERDISK27:UTILITIES/FRED TO WORKBENCH1.3/FRED ALL
```

Alternatively, you can click once on the FRED directory icon and drag it across to the new disk's window. This has the advantage of creating a new directory for you and copying the icon as well.

Once you have moved a particular program to where you require it you could experience some problems running the program. This is sometimes caused by the program not being able to find files which it needs to run.

A good example is the text files on the CoverDisk. These have been crunched using PowerPacker, so when you try to copy them to another disk and then try to read them you can't unless you have also copied the Powerpacker library into your LIBS drawer.



So if you have copied a program from the CoverDisk to your Work disk or hard drive make sure you also copy any other files the program requires, ie fonts, libraries, device drivers and Ccommands.

De-archiving

Occasionally we have so many programs to fit onto the CoverDisk that we have to archive them. Archiving is where we take the entire contents of a disk and compress them into one file which is much smaller, giving us space to fit more programs onto the disk.

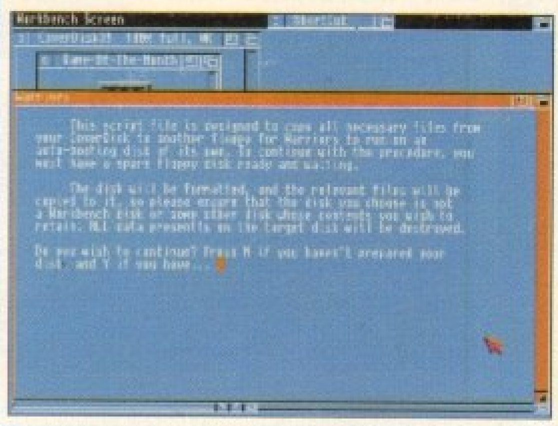
Dearchiving programs which are on the CoverDisk is a very simple task. If a program has been archived then you will need a blank disk to dearchive it onto.

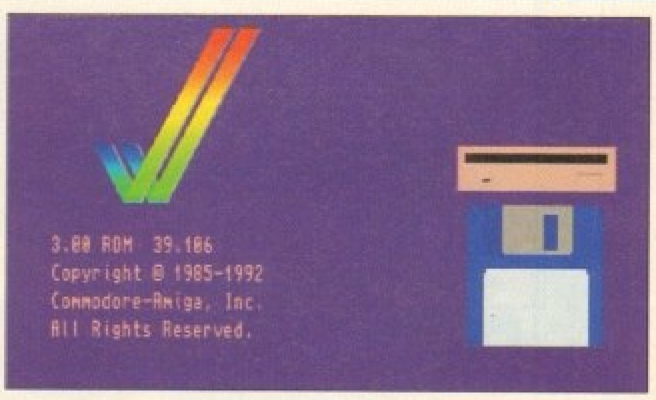
Say we have archived a program called FRED. You simply double click on FRED's icon, and will be asked if you have a blank disk ready to dearchive to. Type "y" or "n" accordingly.

Your computer will then copy the archived file into its memory and ask you to insert your blank disk. It will proceed to format the disk, and will then de-crunch the archived file onto your blank disk.

Once this has been done you can simply reboot your machine with the disk which contains the dearchived program on it and then use the program as instructed in the CoverDisk pages.

Note that if you have a Workbench 2 or upward machine you must boot with the CoverDisk write-enabled to perform the dearchiving process.





Workbench 3

If you have a Workbench 3 machine, don't worry – most if not all of the programs on the CoverDisk will work on your machines.

If the program is specifically designed to work with Workbench 3 then you may have to copy the program to your hard drive or Workbench disk using the process described earlier on this page.

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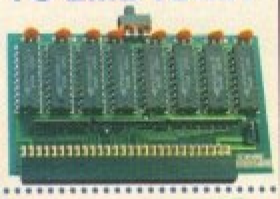
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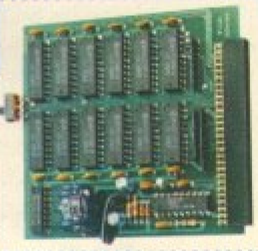
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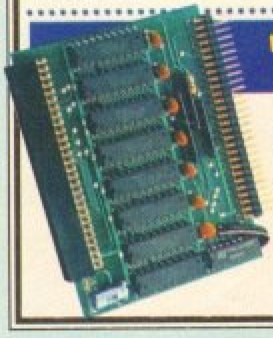
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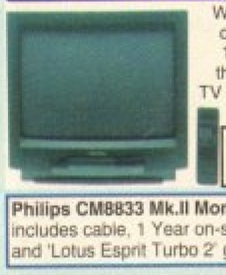


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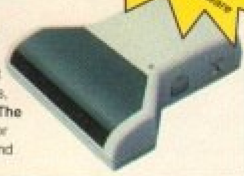
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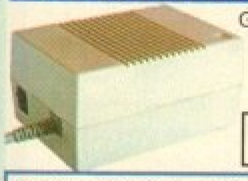


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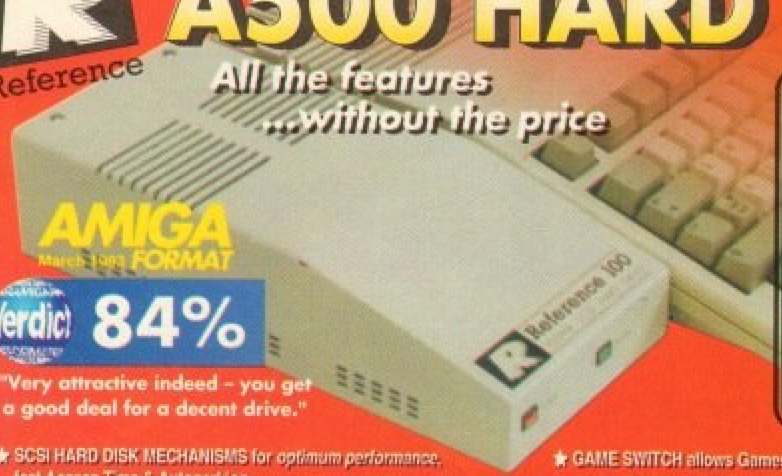
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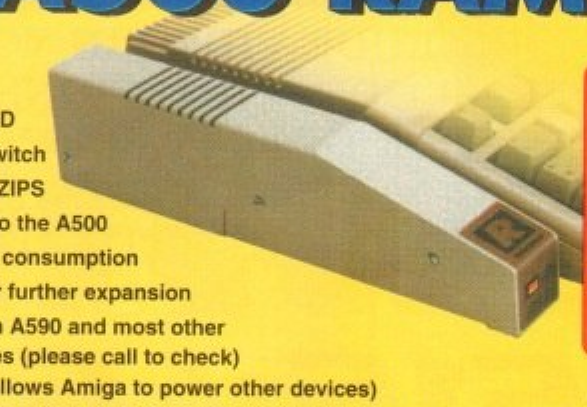
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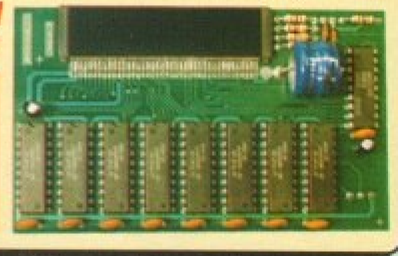
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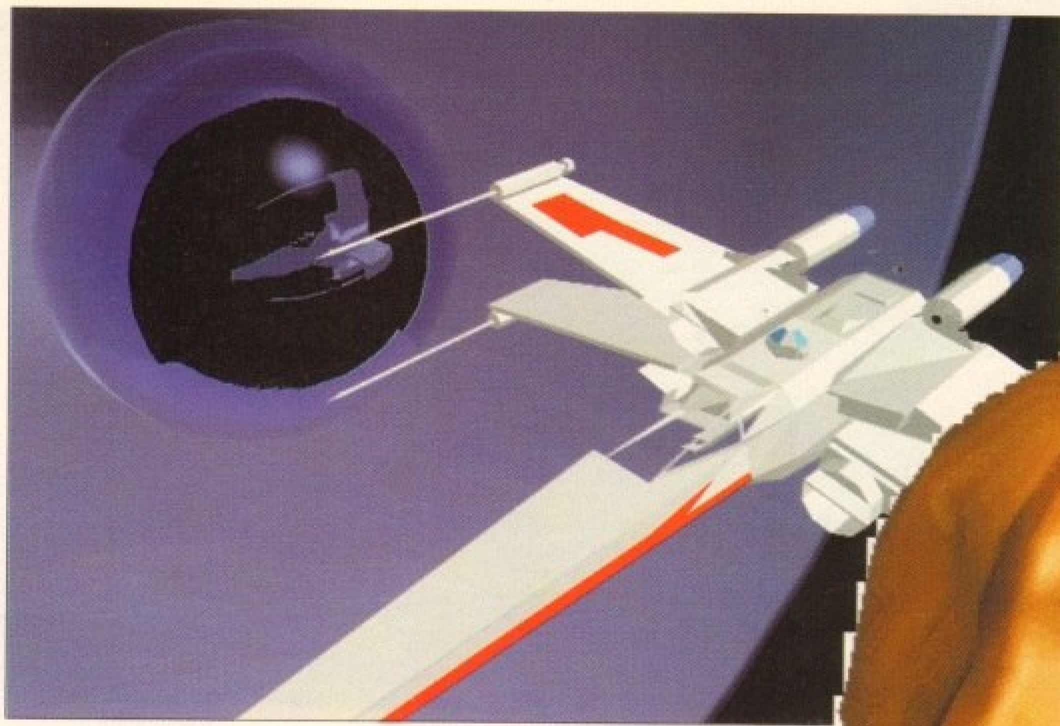
Stevie Kennedy examines Caligari 24, possibly the Amiga's best broadcast animation system

Though overshadowed in much of the Amiga world by the twin colossus that is Real 3D and Imagine, Caligari has since its release been widely regarded as one of the most elegant modelling programs with an interface which is at the same time easy to use and very intuitive.

Overtaken in terms of power and features by the dynamic duo, Caligari sank from sight outside America for a while, and it is with this latest release that its authors hope to recapture some of the lost ground.

In earlier versions, Caligari offered no 24-bit support, no real texture mapping, and no ray tracing. Caligari 24 does, of course, offer full 24-bit output, but it also has full texture and brush mapping, though ray tracing is still excluded.

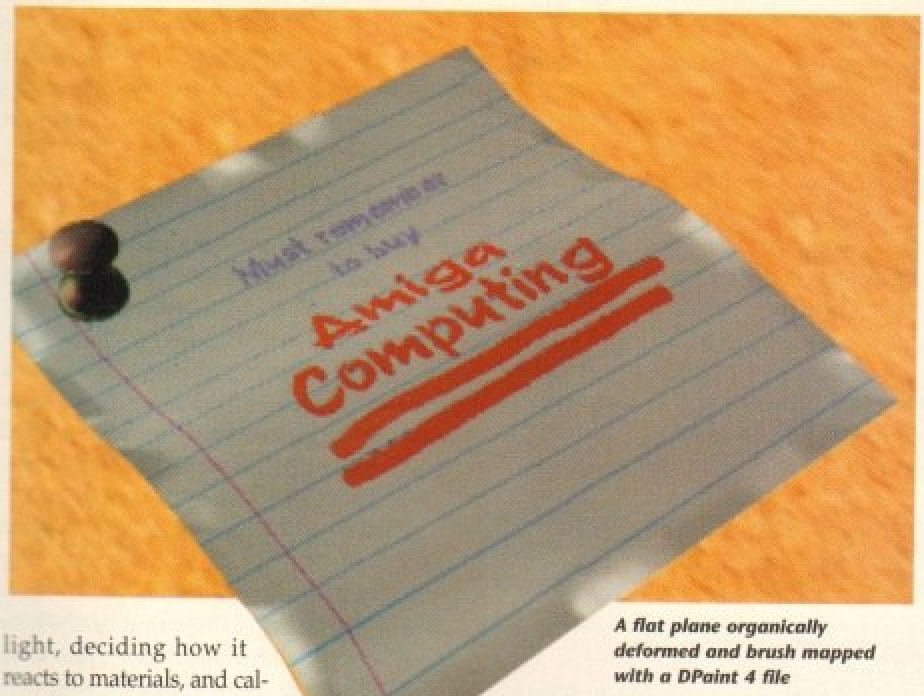
The reason for this is that Caligari has always been a solid modeller as opposed to a ray tracer. In effect, this means that instead of going through the very maths intensive process of tracing each ray of



Cubic mapping in action as we eyeball an X-wing



Organic deformation brings the wooden head a step closer



A flat plane organically deformed and brush mapped with a DPaint 4 file

light, deciding how it reacts to materials, and calculating refraction, reflection, and so on, Caligari adds artificial shadows when needed and utilises a range of other techniques such as phong shading to achieve realistic effects.

Though the results will never quite match a full-blooded ray tracing for realism, Caligari is capable of excellent output without the speed penalties imposed by its slower cousins. Animators with no need for mind-bending light bending will therefore find in this package a useful and productive tool.

Opening on a perspective view of a flat surface, the program immediately offers a very different prospect of the 3D world than that which both Real 3D and Imagine take as standard. It is easy to switch to side, front, and top views for a more traditional view of the modelling space, but the essence of Caligari is that it concentrates on working in real time 3D.

Models are created in 3D, edited in 3D, rotated, sized, and moved in 3D, and all as the user looks on, the effect being that once this unusual approach is mastered it becomes natural and easy.

I say unusual only in regard to those who have used one of the other major modellers. For new users with no prejudices to carry on from other packages, the learning curve could hardly be more smooth.

All functions within the program itself are driven by gadget strips across the bottom of the screen which build up in layers as each set of tools is accessed.

When, for instance, the user selects the Tools option from the main menu strip, a second layer containing its own buttons is added. The same goes for most of the access buttons, such as Anim and Scene, but to avoid unnecessary clutter, each strip can be individually shut down.

Given enough use, the system of gadget strips works very well, and the option to keep as many or as few open as needed makes the whole workspace very flexible and responsive to each user's way of working.

LESS COMPLEX

This is hardly the same level of configurability as offered by Real 3D v2, but Caligari has a much less complex interface and so doesn't depend to such an extent on how much it can be altered from its default setup.

As each gadget is rather thin and the program operates only in hi-res interlace, a decent monitor is an essential for use, and I would have liked to have seen some sort of concession to those who might want to make the menus more readable.

Text is black on a grey background, a combination which reduces flicker but which can be difficult to read on smaller screens. Fortunately, models appearing in the modelling space are clear and well represented, the currently active object highlighted in bright grey while the others are a toned down mid grey.

To avoid confusion when dealing with complex object groups in a hierarchy, Caligari displays the top level of any hierarchy in bright blue when it is the active object.

Hierarchies are formed when two or more objects are joined together to form a group. Just about every finished 3D model ever produced on the Amiga has had an hierarchical structure because using such an approach makes keeping track of all the component parts much simpler.

In addition, the ability to go the topmost level of an object's structure and apply a texture or effect to every object in the hierarchy makes for very fast and efficient editing.

To take an analogy, a leg hierarchy might contain thigh, knee, calf, ankle, and foot objects. How much easier to tell the Amiga to give the leg hierarchy as a whole ➤

a set of skin attributes than to assign them to each individual object in turn?

Real time editing is made much simpler by the program's use of the camera as the eye through which the user peers into the virtual world, ensuring that what you see on your editing screen is what you get upon rendering.

Other packages enable the user to see the camera's viewpoint, of course, but only Caligari makes it possible to change the camera's position and see in real time how this affects picture composition.

The camera, or "eye" as the program calls it, can be positioned anywhere and scaled to produce pseudo-telephoto and fish eye effects, so there is as much control as available in other programs.

What makes Caligari stand out from the crowd in this respect is the ease with which the camera-eye combination can be thrown around from place to place without the user ever becoming disorientated.

PRIMITIVE

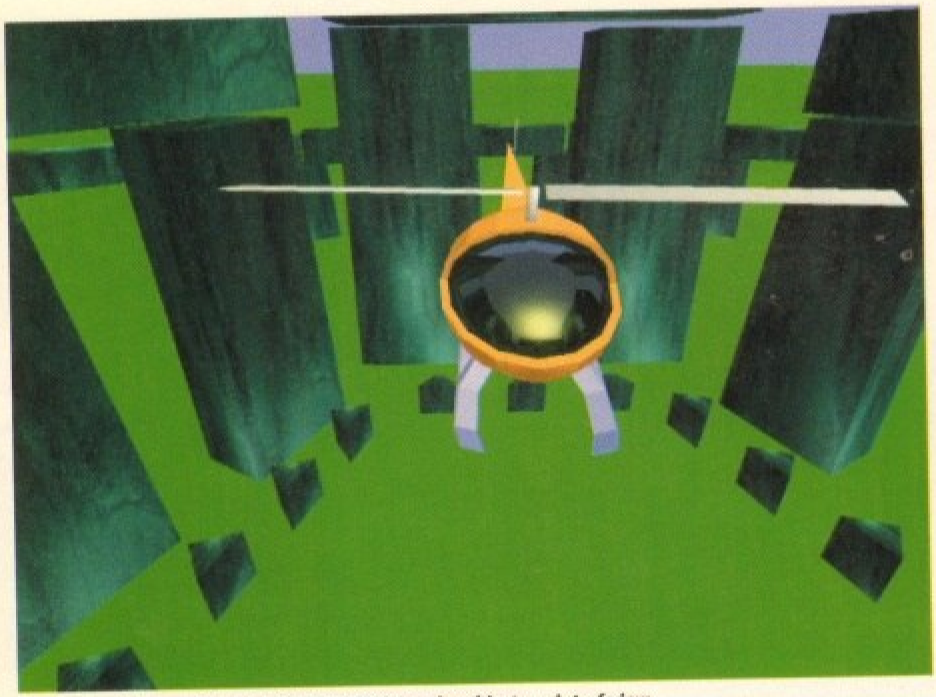
When it comes to actual object modelling, the program takes a primitive-based approach. At a stroke, any one of 18 primitives can be added to the modelling space, offering a fair degree of extra choice over the usual cube, sphere, pyramid, and so on.

This isn't the only way to create objects, and the extremely easy-to-use extruder will no doubt see a lot of hard service. Selecting this from the Tools strip brings up a flat grid on which the user draws a polygon, then chooses to either create it as a flat object, extrude it to length as a 3D object, or use the lathe on it, which is just another way of saying the object is swept around on an axis or edge chosen by the user.

My only gripe concerning this section is that to change settings for, say, the angle around which a polygon is swept, one must go through two other sub-strips, even though a small redesign would see the relevant settings options fit snugly onto the main extruder control menu.

Other than this, though, extruder is a powerful, easy to use tool which adds greatly to the program's productivity.

In combination, Caligari's range of primitives and its well implemented extruder can supply sound foundations and the building blocks for a scene, but without its point editing and new organic deformation features, the program could not have produced the stunning imagery we've used to illustrate this article.



Another cubic mapping, this time taken from the objects point of view

Probably the biggest talking point for this release is the organic deformation feature, so-called because it enables the creation of more natural objects through taking rough objects and changing their shape to whatever form the user requires. Its inclusion boosts the program's object creation facilities to a new plane, and does so with remarkable ease of use.

Located on the point editing strip, deform can be used on whole objects or, if the user wishes, individual faces. By simply selecting an object or entering point edit mode to activate a single face, a quick stab at the deform button throws a bright yellow grid box around the area to be deformed.

Dragging the left or right mouse buttons while the grid is on screen increases and decreases the number of slices through the three axes, and each point of intersection thus created can then be selected for use as a control point.

> *What you see on screen is what you get on rendering*

Multiple selection of points or the quick selection of a complete slice is possible, so the user should find it easy to choose exactly the deform to suit his or her needs.

Once a control point or points is selected, all normal move, scale and rotation tools can be brought to bear on the surface of the object, resulting in superb flexibility of control over the final shape.

If more facets are required to ensure that the more organic result is smoother, the QuadDiv button instantly divides the selected face or object to create more faces.

The one downside with such operations is that speed can be crippled, even on the A4000, but turning off real time helps greatly, if only by sacrificing real time 3D editing.

Instead of a representation of the object, a ghosted box appears whenever an editing option is used, enabling the quick sizing or positioning of complex objects without the hassle of screen refreshes. A compromise, perhaps, but one which works well.

Other useful editing tools include the slice option, which uses a real-time representation of a cross section through an object to make the cutting up of objects easier.

By selecting points on opposite faces of any object, the user creates the cross section, highlighted as usual in blue, then moves it through the object using the mouse button. The section changes shape and size as it moves to reflect the cut of an invisible razor.

When satisfied, clicking on separate will take the slice out of the parent for use as an object on its own, and the original object itself can be split along the slice using the decompose function.

This is a fairly well implemented feature, but I would have been much happier to have seen the sort of Boolean cutting tools available through Real 3D or the Imagine Slice feature which enables the use of one object as cutter and another as the target.

Caligari can offer no equivalent to these more powerful slicing and cutting tools, a fact which lends it a handicap in the object creation stakes.

However, the main meal on any Caligari menu must be the scene creator, from where the Broadcast Render module and the redesigned anim section can be accessed. It is here that lights, textures, and animations start to come into their own and where the real power lies.

TEXTURES

A strange fact about Caligari is that it does not allow the user to assign textures and other advanced attributes until entering the Broadcast Render menu.

This is annoying at first having used other packages, but it makes sense to leave factors which affect only the final rendered appearance until after modelling is complete, and quickly becomes accepted.

Another weird method is that by which lights are positioned. Unlike most other packages, Caligari does not represent lights in the modelling space using symbols or small objects, preferring instead to give them their own menu strip and creation screen.

By accessing the appropriate menu, the user can put lights anywhere and jump to the viewpoint from that light to judge at first hand how well it illuminates the scene and at what angle it strikes an object.

This is very handy, but the method's advantage is wiped out by the placement technique, which is simply to type the X-Y-Z co-ordinates in at three string gadgets, then check to see if the light is in the correct place. Very clumsy.

No other part of the Caligari environment suffers from this awkwardness, however, a fact which is especially evident in the main Broadcast Render screen. Here one can change just about every factor governing the final appearance of an object, from its diffusive properties (tendency to show shiny highlights) to its transparency and any tex-

Virtual competition

There are no other major solid modelling packages available on the Amiga, unless Real 3D, which can perform solid modelling but is most usually employed as a ray tracer, is admitted in evidence.

Caligari's main rivals are therefore packages which mostly work on different principals, but the market in which they operate is the same so the comparison is valid.

Real 3D v2

Now offering just about every effect and facility under the sun, Real 3D is an incredibly complex, powerful package capable of stunning results. It is, however, unwieldy with a fairly steep learning curve, and certainly fails in the user-friendliness and ease of use categories.

For superb and realistic results, Real 3D v2 is a good bet, but is perhaps better suited to dedicated full-time users and artists than those in need of quick results.

Supplier: Alternative Image
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Imagine 2.0

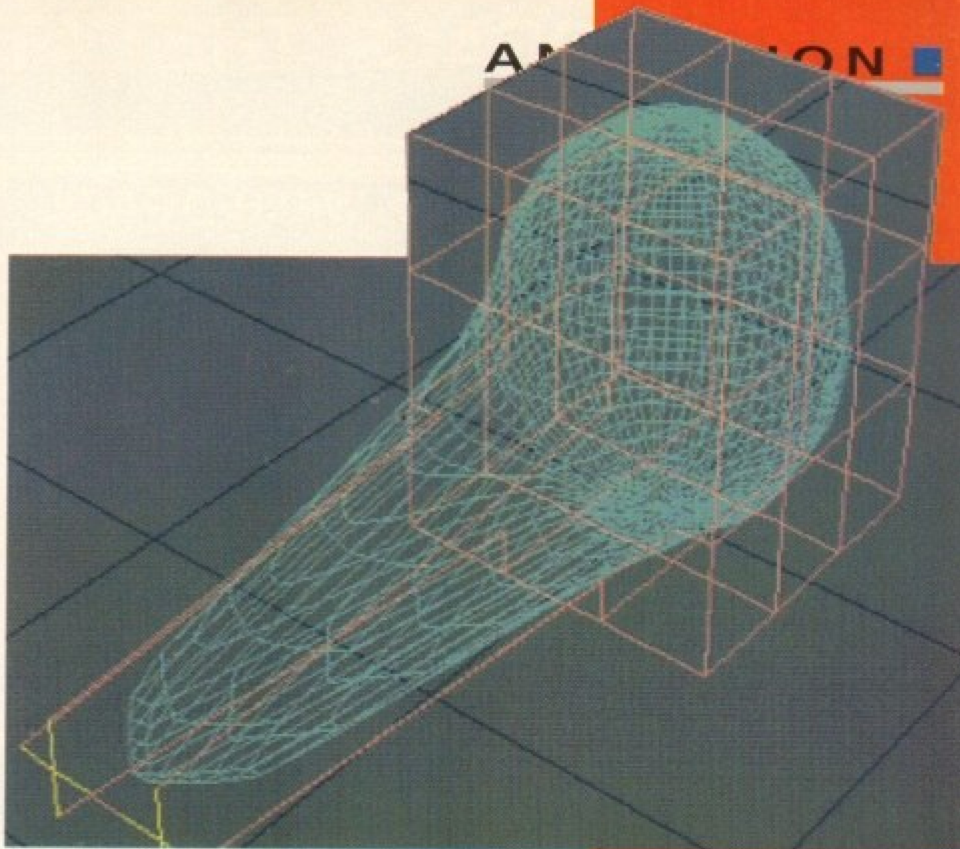
Now overtaken by Real 3D in terms of power features, Imagine is still a strong contender if only because it offers its own unique animation facilities. The Action Editor is much more flexible than Caligari's timeline system, even though clunkier in use and bereft of control over object hierarchies.

In terms of the power of Imagine to animate, its special effects, animated texture maps, and so on give it a distinct edge. Caligari wins on ease of use, but there is less of a gap between these two products as that between Real 3D and Caligari.

Supplier: First Computer Centre.
Phone: 0532 319444
Price: £120



Two cubic maps applied in the same scene makes rendering a bit of a drag



The superb new organic technique works a treat and is easy to use

tures it may use.

Most of this is presented through the Attributes requester. Shading techniques are controllable from here, with a choice of faceted, gourad, or phong shading on offer combined with textures, environment mapping, and more.

Environment maps can be a pain to use if the simple horizon simulating 1D maps are discarded in favour of the more realistic "cubic" type. These are either loaded from the short list of pre-supplied examples or built up from within a scene and are designed to form an all-round view of a scene itself to be reflected in shiny materials such as glass or chrome.

By selecting an object in a scene as the viewpoint – usually the shiny object on which the map will be reflected – the user chooses to create a new cubic environment and the Amiga toddles off to render six views taken from that viewpoint. The process is a very clever but time-consuming one, and the results can sometimes be unpredictable, but when successful the final image is worth the wait.

SHINY OBJECTS

One disadvantage is that if there are two or more shiny objects in a scene, an environment map must be created specifically for each one unless they are all to reflect the scene from the wrong viewpoint. This restriction makes it impractical to create such scenes, a restriction which some users might find irksome.

Having raised the point, no review would be complete without a note on the speed at which complex scenes are rendered once the preliminary messing about with environments and other scene-setters is accomplished.

As no ray tracing is taking place, images appear at a very respectable pace, much faster than one of the dedicated ray tracers could manage, so although rather clumsy for single image generation, Caligari's method of using environment maps to simulate reflections saves a great deal of time when many frames are generated.

An important downside is that a Cubic environment is a snapshot of a scene taken while all objects are in a certain position, so animations involving shiny objects will have to either forego Cubic environments or keep their limitations well in mind.

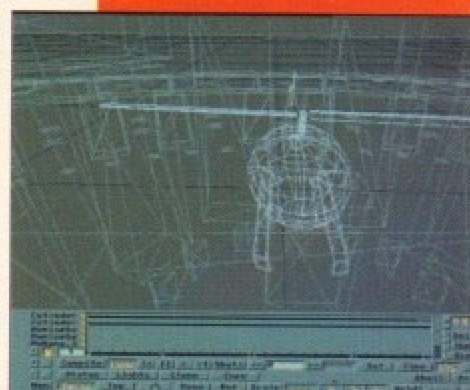
Speaking of animations, we seem to have arrived at the meat and drink of Caligari's existence.

Everything in this package aims the user at the target of producing animations quickly, easily, and effectively, but until this release the program was less than replete with animation tools.

The new Anim menu takes Caligari forward a huge leap in terms of animation facilities and gives it a distinct advantage over many other packages. Simply speaking, it all comes down to a matter of timing.

By selecting the Time gadget, the user can summon a graphical timeline of all objects in the scene, a method which seems to have borrowed a few tricks from Imagine's Action Editor. All key frames are displayed on the timeline, making it possible to simply click and drag to either completely re-schedule an event or dispose of it altogether.

To control objects, one need only move them to a new position, attitude, or whatever, and confirm the changes using the Set button, thus creating a new key frame. In addition, the program's unique "channel" approach means that each object can have as many channels of animation as the user requires, and the hierarchy support enables the animation of all individual components.

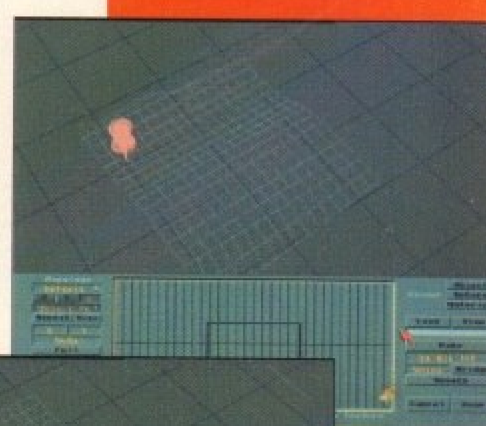


For example, a helicopter can be made to fly apart in pieces while the rotor continues to spin simply by selecting each of the exploding objects in the chopper's hierarchy and assigning them their own movement paths.



Animation made easy with timelined events

All objects which are part of the hierarchy and do not have different paths assigned will carry on as normal, so it is easy to make a rotor spin and let the hierarchy worry about it sticking to the top of the helicopter as it moves. In all, Caligari's hierarchical animation system, though lacking the special effects offered in other packages, is extremely easy to use and deceptively powerful. When used to produce quick and effective TV graphics it is unrivalled for the speed and ease with which a relatively inexperienced user can get things moving.



Not the best of programs for the most realistic results, and still lacking some of the high quality effects found in its main ray tracing rivals, Caligari is nonetheless a much improved product and one which deserves to do well.



final work involves the easy textures menu and not so easy lights screen

Once the joys of working within its very accommodating environment have been sampled, few will want to animate in any other way.

AC

SYSTEM ESSENTIALS
RED = Essential YELLOW = Recommended

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The bottom line

Ease of use 9
Implementation 9
Value for money 8
Overall 9

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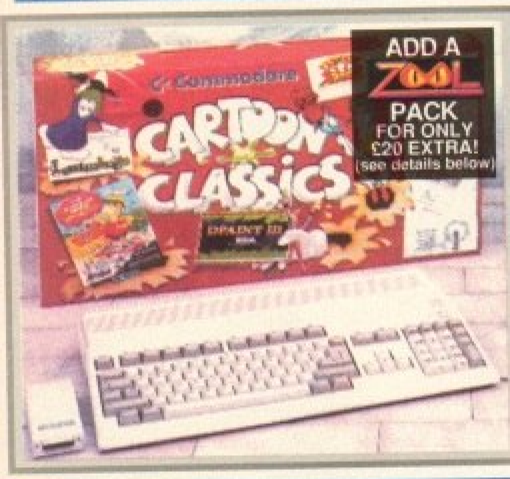
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Prints

Duncan Evans courts a range of low cost dot matrix, inkjet and laser printers in search of the perfect partner for his Amiga

After the initial computer purchase the most common item of expenditure on the shopping list is a printer. The trouble is which type – never mind model – do you go for? Will a 9-pin dot matrix suffice or do you need the speed and quality that a laser can offer? With prices of high-end machines falling there really is no need to look to a 9-pin dot matrix for your printing needs unless your budget really is restricted or you're looking to print lots of text, like listing for debugging programs. Twenty-four-pin printers are slower but much better quality and you get decent graphics albeit at a pedestrian pace.

For anyone who is going to print predominantly graphics then an inkjet is a much better idea, and if quality, speed, and graphics are the three main areas of concern it's time to take a look at some of the inexpensive lasers now appearing on the market.

Citizen Swift 90c



Type: 9-pin dot matrix
RRP: £219
Speed: 240cps draft, 45cps NLQ
Emulations: Citizen 90, Epson FX-850, IBM Proprinter III
Fonts: Roman, Sanserif, Orator, Prestige, Script, Courier plus Courier Draft and High Speed Draft
Buffer: 8k

It was only a few years ago when Epson were wallowing along in mediocrity and Citizen took a big lead with the excellent Swift range of printers. Epson have rebounded with a vengeance of late, leaving Citizen to do the catching up.

Right down at the bottom of the market, Citizen have tried to make it their own with the Swift 90 range of speedy 9-pin dot matrix printers, offering both standard and cheap colour options. For such a cheap effort, the Swift 90c has a surprisingly large footprint. Still the top notch sheet feeder has been enhanced again, though making it slightly less convincing if you ask me, but it never did jam, just gave the paper a hard time going round.

There's automatic sheet feeding which is a bit of a novelty at this end of the market, but a tasty feature nonetheless, and the traditional control panel has been given something of a going over. Instead of an LCD display like its more expensive predecessors, or cheap, tacky buttons and lights like everything else at this price, there's the sliding button and label menu system.

Two sliders move in two menu sockets, and as they do selectable options appear in four windows with buttons alongside. It's peculiar to say the least, but it works, even if does take a little while before you know how to get to everything on the menu.

For all that this is the Swift range, and that 9-pins have been traditionally fast, the 90c isn't the quickest 9-pin you'll ever see, with a top speed of only 240cps – and that's using the ropey High Speed Draft font.

Still, if you want to print out listings or something it'll do the job. What is really surprising is the quality of the 45cps NLQ fonts. While big images or curves invariably look jagged, standard text output is pretty neat, and is even better than the output of some 24-pin machines I could name.

There's bad news in the size of the printer buffer, which is a measly 8k, but good news in that Citizen supports all its printers with drivers for the Amiga – which saves you from having to go hunting for PD drivers as is usually the case.

The only difference between the standard 90 and 90c is that the latter has the colour ribbon option built-in, and with those drivers available direct from Citizen you'll be able to make use of the colour option very easily.

The Swift 90 and 90c are sophisticated 9-pin printers, which may seem a contradiction in terms, but the features and output do belie the number of pins on the print head.

abcdefghij

Gubbins, gubbins, Gubbins, gubbins, gubbin

Hello and welcome to Amiga Computing from Europress

Epson LQ-100

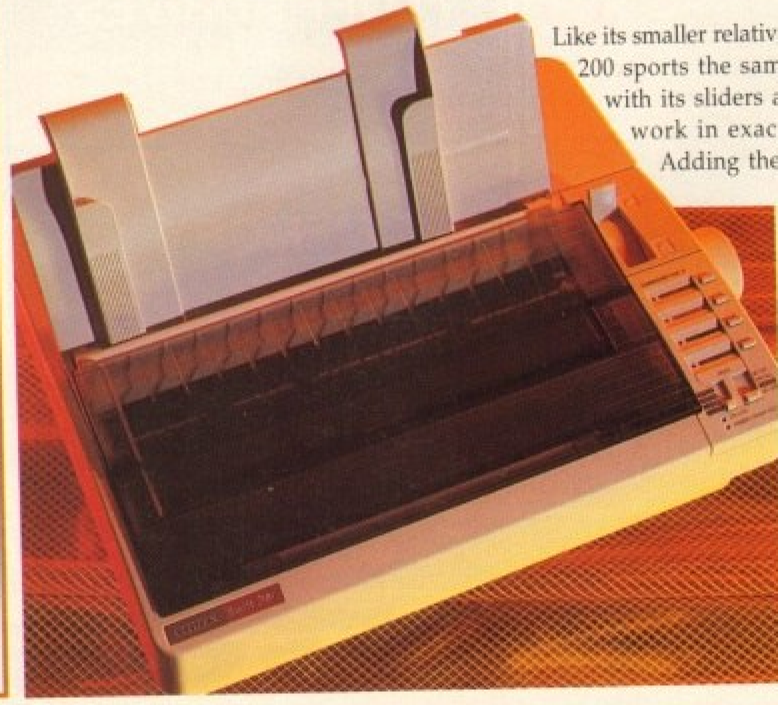
Type: 24-pin dot matrix
RRP: £210
Speed: 167cps draft, 60cps LQ
Emulations: Epson PS/2
Typefaces: Draft, Roman, Sans Serif, Courier, Prestige, Script
Buffer: 11k

It won't be long before the 9-pin market has been completely crushed from existence by the weight of budget 24-pins. They don't cost much more and the print quality is miles better. Witness then the Epson entrant to this market.

Where traditionally the Epson numbers game had been headed upwards, an about turn has resulted in the LQ-100, and possibly the most normal, and dull, looking printer in their range.

Looks can however, be misleading, as beneath that extremely minimalist – no confusion spared – front panel, you suddenly realise that you can't see into the machine at

Citizen Swift 200



Like its smaller relative the Citizen 90, the 200 sports the same command panel with its sliders and buttons, which work in exactly the same way. Adding the fact that the sheet feeder is just as good, there's also that excellent automatic paper feed mechanism. Add a snap-off panel for font cartridges and you have a printer that's physically identical.

Where the difference comes is in the printer engine, where the 200 offers superb

all, and that the sheet feeder is in fact located in the bottom of the front.

This slides out to reveal a 50-page single sheet feeder, which is something of a novelty on a dot matrix printer. It then accepts the paper and slides back in again.

CONFUSION

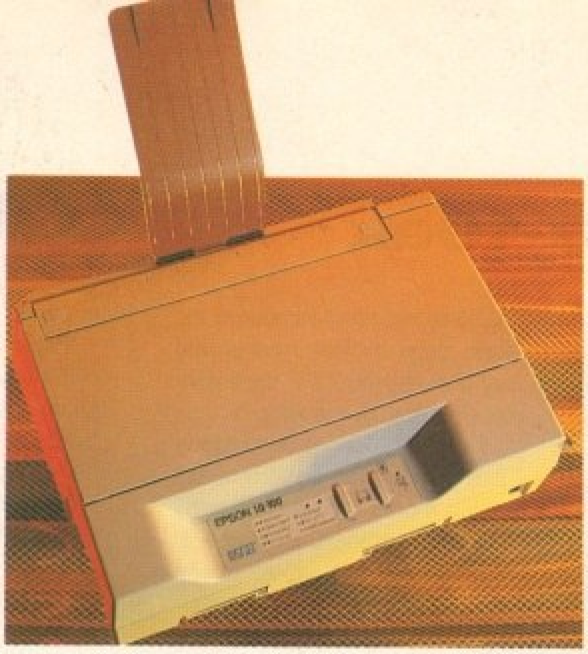
While the front panel does allow you to swap between the seven built-in fonts (two of which are scalable), it is also an exercise in confusion and requires guesswork or a trip to the manual before you are completely familiar with it.

Another bizarre feature of this model is that you can prop it up on its end, though just why you'd want to make your printer unstable I really don't know.

As usual, for an Epson ES/P 2 printer the output quality is top notch with finely curved lines and delicate text. The LQ-100 may be more rough and ready than the others in the range but it shares the same printing quality mechanisms.

Speedwise it's still pretty average because while it was nippy at 60cps in LQ mode it was also slow at 167 cps in draft.

Expansion possibilities are limited, since there is no colour option, but considering the absurdly low price of this model it does lend weight to the argument that the budget 24-pins have already killed the 9-pin market off.



charming

24-pin quality, and has a colour option, but at a higher LQ speed (60 cps) than that of the 9-pin version. That said there is no high speed draft option and what you do get isn't so much Swift as not slow.

OK, so the control panel is definitely much cheaper than the LCD panel on the original Swift series, but it's also more sophisticated than all the other printers in this price range, and while it may not be the quickest printer you'll ever see it gives some of the best output.

Large black areas are a bit greyish, but curves and jagged edges are well printed and standard characters come out very well.

The 200 also has the selling point that while it may sound like a dentist's operating theatre, it also sounds as if the torture is happening some way away. The noise is pretty horrible, but muted, especially if you use the quiet print function.

Quality wise you're talking better than either Star, and pretty much even with the Epson LQ-100 – although the larger characters are handled much better by the Swift.

If you're looking for a best buy in this article, the Swift 200 with its six LQ fonts, cheap colour ribbon option and high quality output is it.

- Type: 24-pin dot matrix
- RRP: £259
- Speed: 180cps draft, 60cps LQ
- Emulations: Citizen 200, Epson LQ, IBM Proprinter, NEC P20
- Fonts: Roman, Sanserif, Orator, Prestige, Script, Courier plus Courier Draft
- Buffer: 8k (32k and 128k options)

Fujitsu DL1150

The first impression of this offering from Fujitsu is that it's a giant toaster. It's almost Epson-like in its protruding upright design, especially since bits of the light plastic casing snap off to reveal the angularly mounted print head.

Full marks for strangeness, unfortunately nil points for the sheet feeder which is tripe – it's poor quality and there are no guiding arms to aim the paper so expect misaligned paper unless you use the tractor feed.

Still, there are a number of nice looking LQ fonts built-in, which are easy to get at from the simplistic front panel.

- Type: 24-pin dot matrix
- RRP:£365
- Speed: 200cps draft, 60cps
- Emulations: Fujitsu DPL24C, Epson LQ-2500/2550, IBM Proprinter XL24
- Fonts: Courier, Pica, OCR-B, Prestige Elite, Boldface PS, Dutch PS, Swiss PS.
- Non-LQ: Correspondence, Compressed, Draft, High-speed Draft
- Buffer: 24k

Performance-wise it isn't particularly noisy, is medium pace at 60cps in LQ mode and has a decent size printer buffer for those longer text printing jobs. It also has a good range of emulations, though the Epson one is not the most common you could ever see.

Print quality is potentially pretty good since those curves and jagged lines are nicely smoothed, but larger areas of black tended to break up, and that's even accounting for the fact that the ribbon on the review machine had seen better days.

Throw in the colour option and you've got a large, lightish, easy to use printer that's good for dealing with larger amounts of text rather than graphics.



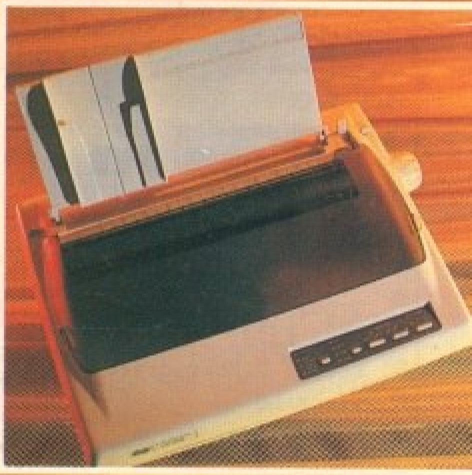
Star LC-200

While your average Star printer wouldn't win any beauty contest awards, they are usually very competitively priced. Cheap in other words. The LC-200 is no exception, offering bland looks, decent 24-pin performance, and a cheap route into colour.

Having become used to Star printers being particularly unpleasant looking, the curved styling of the wide front area of the LC-200 was slightly refreshing. It looks good for a Star, but then that isn't saying much.

The single sheet feeder slots neatly over the tractor, and there is a choice of exit holes for paper, including, would you believe, the underside.

The actual feeder is pretty good, though there's a slight tendency for paper to stick on a ridge inside, and not hit the feed hole if you aren't careful. It isn't particularly bad, but it does occasionally happen.



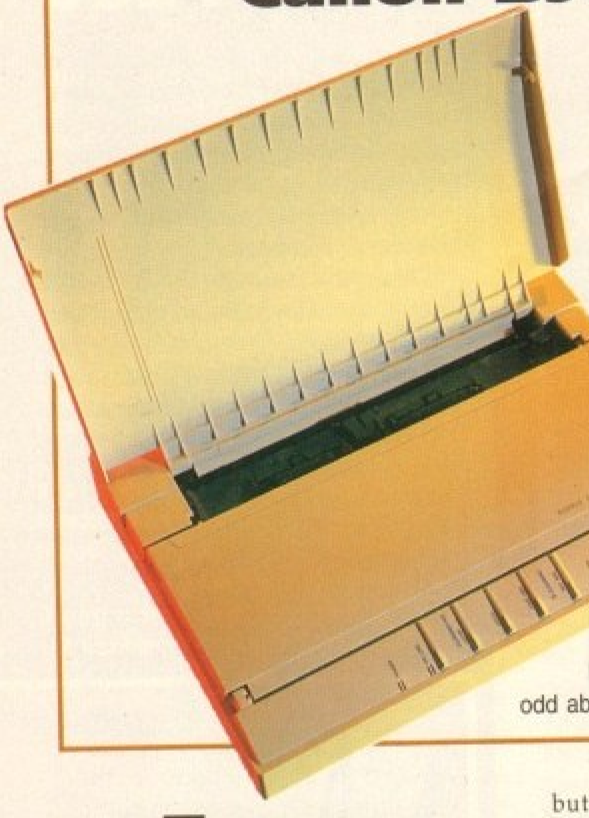
You know when the paper is in, though, because when it prints the LC-200 makes a fair old racket, especially printing graphics when it starts to screech.

Controlling the printer itself is easy enough with the front panel being an old-fashioned buttons and lights job. There are four LQ typefaces, and quite decent ones they are too, as well as the draft typeface. If you're printing from software that doesn't control the printer fonts then this is worth bearing in mind.

Quality wise it ain't bad, but neither is it brilliant. If you're looking for a workhorse printer, rather than a stallion, and want a bit more than 9-pin crudity, then this could be the answer.

- Type: 24-pin dot matrix
- RRP: £259
- Speed: 225cps draft, 56cps LQ
- Emulations: Epson FX850, IBm
- Fonts: Draft, Sans Serif, Courier, Orator, Script
- Buffer: 16k

Canon BJ-10ex



Since they were first introduced the Canon range of inkjets have proved very popular and have expensive route into speedy graphics.

The Canon under test here is pretty much the bottom of the range model, and has recently been upgraded. Because of that you can expect to see some substantial discounting from dealers, taking the price right down to sub-£200.

The BJ-10ex is a smart-looking inkjet, being both portable since it runs off a battery, and slickly designed. What's odd about it is that the control buttons and labels are presented sideways on and down the front. Expect to keep twisting your neck until you memorise their functions.

Paper feeding is a bit weak, since you can either stick a sheet in the top and hope it doesn't become misaligned as it feeds, or use the underside feeder and have to balance your printer precariously on its end – not recommended.

Once in there though, it doesn't make much noise when printing, and it has to be said that 83cps in the LQ modes is quicker than a number of inkjets and most 24-pins. The draft mode is disappointingly the same speed, so there's no point in trying for a quick preview of a page.

Quality -wise the results are impressive for such a cheap machine. Text has little of the traditional spidery quality associated with inkjets and instead is nicely rounded and formed, with just a little waviness giving the game away that this is an inkjet not a laser.

On larger character and graphics the results are still as good, though large areas of the same shade tend to be a bit wishy washy.

While not the sturdiest of machines, all the Canon series offer excellent value for money and pretty good quality of print, and if you go for a BJ-10ex you can expect to pick up a real bargain.

```
Supplied by: Gasteiner Technologies (Tel: 081-365 1151)
Type: 360 dpi Inkjet
RRP: £299
Speed: 83cps
Emulations: Canon BJ 130e, Epson LQ-510, IBM Proprinter X24e
Fonts: HQ, Economy
Buffer: 37k
```

Epson Sylus 800

```
Type: 360 dpi Inkjet
RRP: £379
Speed: 240cps draft, 45cps LQ
Emulations: Epson ESC/PS 2
Fonts: Roman, Sans Serif, Prestige, Script, Courier, Roman T (PS), Sans H (PS)
RAM: 1Mb
```

The problem with the new range of Epsons is that no two look remotely similar. Equally the control panel and operating mechanisms for each are completely different. Where the Stylus 800 got me initially was that there is no on-line button. Sacrilege!

However, there is a paper out light, and very usefully, an ink out button. As is usual with the new Epsons, it isn't immediately apparent where the paper goes, and as usual you have a choice.

EFFICIENT

You can either use the manual single sheet hole in the top, or you can fold out part of the 100 sheet tray feeder that feeds paper very efficiently into the bottom of this armchair-styled machine.

The printing takes place under cover of the back cushion part, which surprisingly can be lifted up to reveal not only the print head whizzing along with its 48 nozzles and 360dpi squirting, but also instructions for clearing paper jams, cleaning the head and other useful tasks.

Speedwise you aren't getting a competitor to a laser with a modest 225cps, but that's in top quality mode – the Stylus doesn't have any other. It's also much quicker than a dot matrix printer, and most of its competitors.

Compared to inkjets of old the output of the Stylus is very good, especially considering how fast it is. Graphics are quite solid but the characters do have a jagged rather than a spidery look. They aren't as smudgy as the HP Deskjet, and aren't as wavy as the Canon, merely not as rounded and more pointy than either.

It also sounded vaguely like an ambulance siren far off in the distance while printing, so you're unlikely to disturb anyone while doing so.

The only real similarities between this inkjet and other new Epson printers is that it shares the ESC/P 2 printing language, and of course, the quality of output.



Mannesmann Tally HighPrint 730

```
Type: Heat transfer
RRP: £799
Speed: 6ppm text, 4ppm graphics
Emulations: HP Laserjet II, HP Deskjet Plus, IBm PRoprinter, Epson LQ-850
Fonts: Corpora, Swiss, Timor, maths
RAM: 1Mb
```

When is an inkjet a laser? When it's a heat transfer-based ink-sheet printer, of course. I have to admit that I'd never seen anything like this portable printer as far as printing method goes.

Under the bonnet there are two rollers, passing an ink covered sheet from one to the other. Using a heat transfer technique the ink is fused onto the paper passing underneath. Basically it's like a laser but with the ink already in place.

As a page printer though it's good to see that it comes with 1mb of RAM as standard, which should be capable of most printing jobs. The HighPrint 730 is a portable printer, one that you can actually use on the move, perhaps if you used a portable or notepad away from your Amiga.

It contains a battery unit (150 pages worth) and a charger (eight hours to recharge), and sports rather a strange single sheet feeder mechanism.

This is a bit too delicate for my liking, especially if you're going to be moving it around. The paper rests against the back support, is gripped at the entrance to the printer and is stopped from flopping around by a Hannibal Lecter-like metal restraint.

Speedwise it's quite quick. Surprisingly, it's HP Laserjet II compatible too. The quality of output is somewhat strange, though. The characters are perfectly formed, but faded, as if someone had photocopied a photocopy of a laser printer output. And that's with the paper set as close to the roller as possible.

Still, it's easy to set up and use, has standard emulations, is quick and gives reasonable results so if you are short on space or need to print in different locations the HighPrint 730 is certainly worth considering.

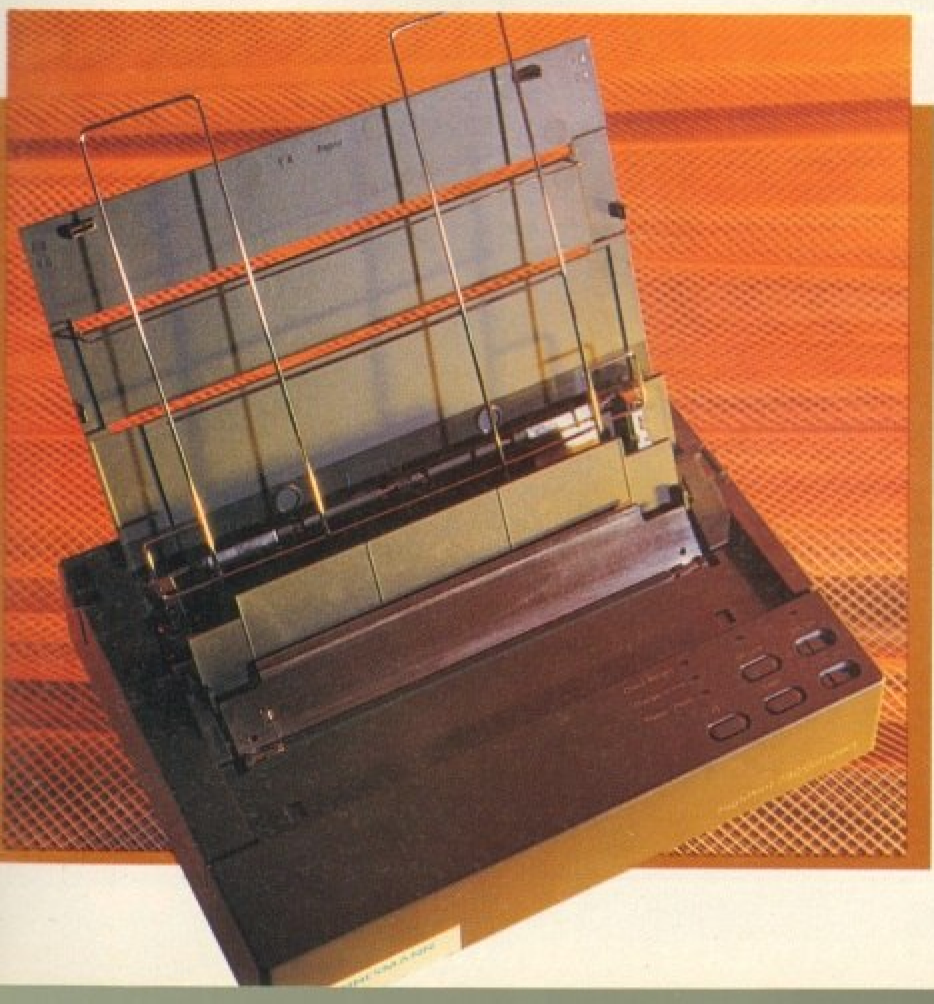
Hewlett-Packard Deskjet 510



I must say that you get value for money from the Deskjet, if only from the amount of space it takes up. Design-wise we aren't talking clean cut lines here either. It's very boxy, which is all the more mystifying considering how light and empty it really is.

The sheet feeder can take up to 100 sheets, or 20 envelopes, at one time, but has a slight tendency to grab all the sheets and feed them through in one go. Pity really because it's built in to the front of the box, and when the paper is fed through and printed there's an internal "out" tray that each sheet is deposited into. The Deskjet certainly has that professional look, right down to the square, sensible buttons on the easy-to-use control panel. While the Deskjet is quite quick, and is miles faster than the Canon, it can't quite catch the Stylus for pace, though it isn't far off. What's good about it is that it's virtually silent, and the quality of output is chunky, but good.

```
Type: 300 dpi Inkjet
RRP: £329
Speed: 240cps draft,
167cps LQ
Emulations: HP Deskjet
510, IBM Proprinter 1
Fonts: Courier, CG
Times, Letter Gothic,
Univers
Buffer: 16k
```



GOOD GRAPHICS

If anything, this was the one inkjet that had that tell-tale spidery aspect, which tended to fudge some of the characters, especially when printing small and close together. It's good for graphics though, since it is quick, and the curves and jagged edges on objects are curved and smoothed quite well.

The Deskjet 510 is a bit of a box, but it's an industry standard box, so getting drivers for it is hardly a problem. Now that it's also at a very low price, really not much more than the Canon, this is definitely worth looking at if you have plenty of desk space.

Star LC-20



Every once in a while there's a commercial success story that has little or nothing to do with the merits of the product involved.

Take the Nintendo Entertainment System for example. A piece of tat that sold by the bucketload.

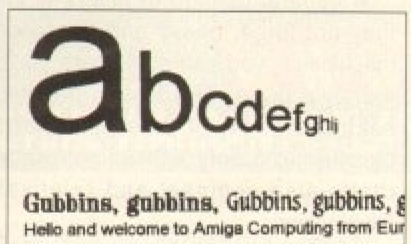
The Star LC-10 was a similar case in point. It was a dismal 9-pin printer that was a best seller simply for the reason that it was just about the cheapest thing you could buy that printed this side of a piece of potato and a bottle of ink.

The LC-20 is a direct replacement, offering this time three built-in typefaces, plus 24-pin quality, as well as ease of use thanks to a cheap looking front panel and simple internal mechanics.

You can even add a colour ribbon at minimal cost, but you'll need a printer driver from the PD market that are openly advertised in mags like *AC* to make use of it on the Amiga.

Basically you're looking at the budget end of the 24-pin market with this effort, since the quality is OK. A bit fuzzy maybe, but it's thankfully quieter than its big brother the LC-200, while offering only one less typeface.

Aesthetically the LC-20 is almost East European in its stark functionality, but if you're short of cash and need a 24-pin machine it is at least dirt cheap.




```
Type: 24-pin dot
matrix
RRP: £189
Speed: 185cps draft,
45cps LQ
Emulations: Epson
FX85, IBM Proprinter
Fonts: Draft,
SanSerif, Orator,
Courier
Buffer: 4k
```

Genicom

- Type: 300dpi Laser
- RRP: £998
- Speed: 4ppm
- Emulations: HP Laserjet IIIP, Epson FX-850, IBM Proprinter XL24e
- Fonts: Bitmap - Courier, Lineprinter. Outline - CG Times, Univers
- RAM: 1Mb

You probably haven't heard of Genicom, much less the anonymous sounding 7040EC. If you ever saw this printer on sale in a shop you probably wouldn't look twice at it either, and that would be a pity, because this is one of the best laser printers under £1,000 that money can buy.

Bold claims indeed, and really from looking at the thing it's quite a surprise to find out how good it actually is. The 100-page sheet feeder on the front isn't particularly good, but it's good enough, and as far as styling goes, the Genicom is immediately reminiscent of the genuine Hewlett Packard Laserjets. It isn't as boxy, being set lower, and the control panel with its eight buttons, four indicator lights and LCD info panel is easier to use.

Inside the casing the drum (10,000 page life) and toner slot together but can be replaced independently, saving quite a lot in the long run. The toner dispenser can also be refilled when necessary.

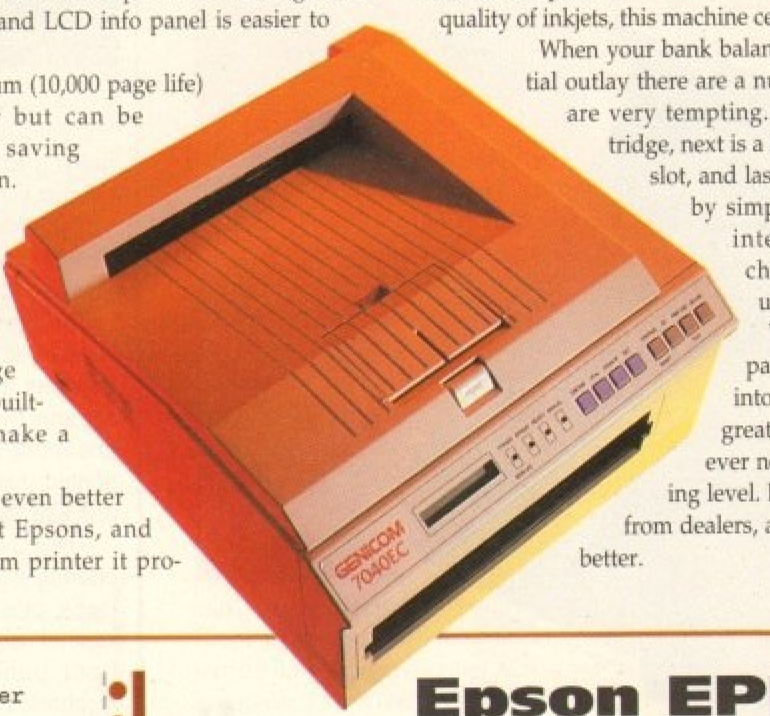
Emulation-wise this is a Laserjet III-compatible with the addition of edge enhancement technology built-in, and boy does that make a difference!

The quality is superb, even better than that of the low cost Epsons, and while it is rated as a 4ppm printer it produces pages quickly enough for any home user.

Whether you need to produce piles of top notch text, or just lots of fabulous graphics and can't be bothered with the slowness and poorer quality of inkjets, this machine certainly does the business.

When your bank balance has recovered from the initial outlay there are a number of upgrade options that are very tempting. The first is a PostScript cartridge, next is a Hewlett Packard font cartridge slot, and lastly you can add extra memory by simply inserting SIMMs onto the internal tray (which is much cheaper than buying RAM upgrade kits for most printers).

While it weighs a tonne, it packs great features and quality into a small footprint. Also, it has great expansion possibilities if you ever need to go to professional printing level. Look for it at around £700-£750 from dealers, at which price you could do no better.



Epson EPL-5000

- Type: 300dpi laser
- RRP: £745
- Speed: 6ppm
- Emulations: HP Laserjet IIP, Epson LQ & FX
- Typefaces: Courier, Lineprinter
- RAM: 512k

There are times when you begin to wonder whether Epson have employed a style consultant. The EPL-5000 is another in range of Epson machines that bear no resemblance to each other, or indeed any other printer.

A general opinion of lasers is that they are large, heavy and expensive machines – you can see where you're money's gone. The Epson machine eschews a few of those standards by offering a very lightweight printer that's also compact and relatively inexpensive.

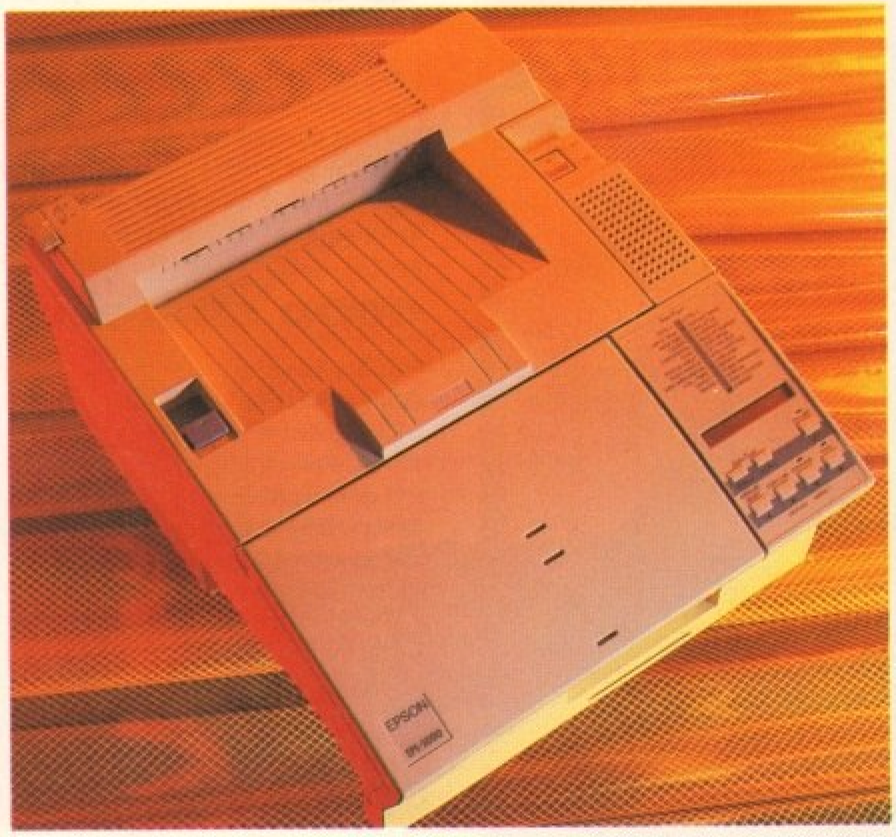
Designed like a sports car, the EPL-5000 slopes down at the front where underneath the bonnet lurks the paper feed and storage bay. If you've every fallen over, banged a knee or otherwise cursed at the sheer clumsiness of most lasers, you'll love this.

All the options are available on the front-mounted LCD control panel, with not only the standard selection of features being available, but also useful utilities like how much toner is left and how many pages has the machine printed (useful for knowing when the drum is past its best).

Internally, getting at the all-in-one toner-drum combo is simple, and the toner cartridge side will last for around 6,000 pages before packing up. A replacement imaging drum costs £117.

For a cheap printer it's also quite speedy at 6ppm and yet the print quality under HP Laserjet IIP emulation is pretty darned good. This is due to Epson's own curve resolution technology that's built in to anti-aliase jagged edges. The result is a quick laser who's only real drawback is the modest 512k RAM inside – you really need 1Mb if you intend to print a lot of graphics.

Still with only a RRP of £749 you can expect to see the EPL-5000 on streets at around £500, at which price I'd heartily recommend it.



JARGON BUSTING

emulation

Most printers, rather than being an odd man out, offer compatibility with the industry standards of Epson on the impact front and Hewlett Packard on the inkjet and laser front. Put simply, your printer will pretend be a more standard variety so that you can use it with the maximum amount of software.

typefaces v fonts

Often confused, a typeface is a unique set of self consistent characters. When you get bold, italic or a variety of sizes of typeface it's known as font. A printer offering 14 fonts may have only four different typefaces.

printer buffer

A term particularly important in dot matrix printers. This is an area of memory where the information to be printed is stored in the printer while it is currently printing. The bigger the buffer the sooner you get control of your computer back, though many software packages will use computer memory as a buffer so it isn't as vital as it once was.

bitmapped v scalable

Bitmapped or raster fonts are represented by individual dots, which means that if you expand their size then they get blockier. An outline or scalable font is a described font in that it doesn't matter what size it is because it is drawn from an internal description.

dpi

Dots per inch. The more the better as finer text and graphics can be achieved. Generally lasers offer 300dpi while many new inkjets go up to 360dpi to try and circumvent the inherent sloppiness of their operation.

cps

Speed of text output in impact and inkjet printers in terms of characters per second. All the speed ratings listed here are for output at 10cps. Characters per inch (cpi) is how closely printed characters are on a page. Fifteen cpi is a squash.

printer driver

A piece of software that translates information coming from the host software into a language that your printer will understand and so print properly..

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A600 Epic Pack with 20Mb. Hard Disk Drive	EPIC, MYTH, ROME, TRIVIAL PURSUIT, MULTI LANGUAGE DICTIONARY, AMIGA TEXT WP, DELUXE PAINT III	£294.95	£344.95 SAVE £100	£419.95 SAVE £75	£439.95 SAVE £85	£509.95 SAVE £75	£629.95 SAVE £55
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Dial-a-droid

As voice mail takes the US by storm and sweeps across the Atlantic, GVP hope to come in on the crest of a wave with PhonePak VFX. But do we really want to talk to computers? Stevie Kennedy gives it a try



It wasn't long ago that one could call an American company and either leave a message on the answering machine or hear a tape of someone rattling through the office hours if no-one was around.

Recently, however, a sinister development has seen the gradual take over of answer phones and human telephonic interface units (receptionists) by computer-driven voice mail systems.

With a voice mail system someone is always in, even if that someone is a stupid, inflexible, impassionate CPU. In addition, everyone's mailbox is available for messages, faxes can be sent, mail checked up on, and – a hundred and one other things you can't do with a simple answer phone are possible.

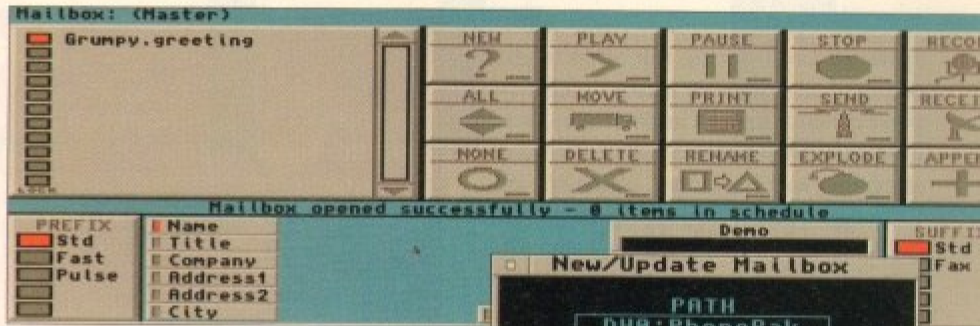
Over the last six months, our colonial cousins have gone for voice mail like a pack of hungry estate agents, so much so that it is possible, even in office hours, to phone an office, go through three different desks, leave your name and message, and try a couple of extensions without ever speaking to a human being. One notoriously bad example is a certain leading US Amiga third-party manufacturer, whose first system seemed dedicated to keeping annoying phone calls at a minimum.

So what is voice mail? Simply put, by controlling a phone system through a computer, it is possible to use the dial tones on a modern telephone as coded instructions, making possible a huge number of actions, controlled by the micro and prompted by someone dialing the appropriate command number at the other end of the phone line.

VOICE MAIL

Anyone who has ever phoned a game company help line will probably have experienced voice mail. A system which gives the user information then asks for a choice, whether through vocal answers or by keying a number, is a voice mail system, and can range from simple information desks (such as the typical hotline) to full company mailbox/fax operations.

GVP's PhonePak VFX is an attempt to bring a fully functioning corporate voice mail system to any Amiga with a spare Zorro slot, and is a combination of a card for the A1500 and upwards and a couple of floppy disks.



PhonePack's central control panel is packed with buttons



Creating new mailboxes using a simple requester

At first, it is difficult to associate this crammed little board with the seemingly labyrinthine systems one has encountered at the other end of the phone, but a little use is all it takes to dispel the impression.

Once the hardware is installed and the user's phone connected according to the reasonably clear instructions in PhonePak's manual, the user need only boot the software and follow the step by step guide to producing a first system.

The manual, though foggy and badly organised in places (the fax section is a nightmare), is solidly biased in favour of beginners and includes several self-explanatory tutorials which work from the setting up of a simple dumb answering machine to full-blown voice and fax mail ➤

systems. Considering the often tetchy nature of telephones in general, and computer communications in particular, I was half prepared to spend an entire day struggling with baud rates, phone line initialisation, voltage disparities, and so on, but PhonePak provided a pleasant surprise by way of its smooth, trouble-free installation.

After only half an hour or so, the first time user should be well on his or her way to setting up their first infuriatingly nice computer receptionist.

This is achieved via the VFX control panel and its built-in Operator script language. The user creates mailboxes (in reality these are sub-directories on hard drive), then proceeds to the Switchboard screen to form the links between them and group them into systems.

Each mailbox has its own particular characteristics, its own greeting and other system messages, and its own status. Mailboxes can be either message receiving (in which case the user specifies a maximum message length when creating the mailbox) or the information-only variety, which do not record a caller's messages (message length set to zero).

SWITCHBOARD

Routes from one mailbox to another are also set in the Switchboard screen, and as there are up to four digits to play with, each mailbox can theoretically have as many as 9,999 links to other boxes.

The user need only specify which number is to be keyed in and click on the mailbox to which the caller will be transferred, making it easy to quickly set up the links for a complex chain.

Each mailbox can be set as IN or OUT at any time, so that during busy periods it is possible to shut certain boxes off or, if PhonePak is controlling an internal phone system, close down certain extensions.

In this case it is possible to set a default route which a call will take if a mailbox is closed, so that the caller hears a "sorry, too busy to bother with you" recording instead of the usual answering message.

All system messages, assuming the user doesn't want to use the pre-recorded American voice, can be recorded (sampled) directly from the phone attached to PhonePak into any mailbox list of system messages, so any and all sorts of customisation is possible.

Samples from other sources can, of course, be used, so the prospect of Bogey answering the phone with the line "Spit it out, wise guy" is all too terrifyingly real.

Music, either as background or for hold tunes, can be incorporated as long as it is in standard IFF 8SVX format, so no two PhonePak systems should ever sound the same.

A drawback with such messages is that when a system uses many different samples the strain on a small hard drive can begin to show. The default messages supplied with PhonePak won't leave much change out of 1.5Mb storage, but some of these will never be used and can be deleted.

Storage space really begins to bulge when more than one mailbox in a system contains long sampled messages. Using the control panel, owners can move samples across from mailbox to mailbox, but it would have been better if this sort of duplication could have been avoided.

> *The script language is tedious, but flexible and effective*

A simple assign to order the Amiga to look in a set directory for all samples would have been a more economical solution to the problem.

Setting up an answering phone system which would enable the owner to phone and listen to his or her messages, record the voices of anyone who phones, and have a separate sub-system for business calls would be a simple matter.

From the initial mailbox, a sample offering two choices (business or private) filters off the messages into their relevant mailboxes, while a third option leads to a box with no message facility and a simple message giving more information about the user's business.

SAMPLES

So long as the user ensures all samples match the routes he or she has created in the Switchboard screen (pressing "1" really does take you to the business mailbox) there should be few problems.

In many ways, the advantages of putting messages into the correct mailbox is a godsend. Password protection – a four-digit dial tone can be assigned to each mailbox – makes it impossible for one family member to listen to the other's calls, and the business messages can be kept separate from everything else. No more playing through interminable messages from the kids' friends in search of that important call from the boss!

In terms of flexibility and power to handle the user's demands, PhonePak is hard to beat, but there are drawbacks. A hard drive is an essential, and setting up the more complex or advanced features can be a pain.

The manual section covering faxes is, as mentioned, well nigh incomprehensible and split over three different chapters, though this will hopefully be fixed when the planned manual rewrite takes place.

When the price of £399 is taken into account and weighed against the cost of a fax and answering machine, PhonePak becomes a realistic option for businesses or those who work at home.

Bringing with it as it does the power to automate information systems, answering services, paging, faxes, and call transfers, there is precious little else for it to do except perhaps put its human counterpart (the receptionist – less efficient but friendlier and more flexible) out to seed.

AC

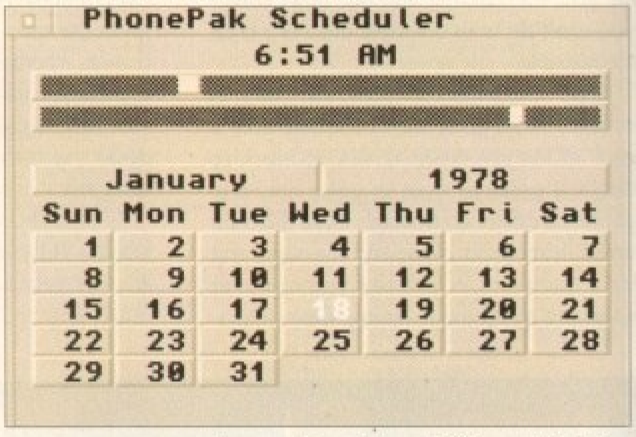
Hello? Operator?

PhonePak's built in power comes in the shape of the Operator script language which can be used for just about every operation one might want to carry out with a telephone, with the obvious exception of the 3am phone call. I mean, try getting an Amiga to throw the phone across the room and out the window.

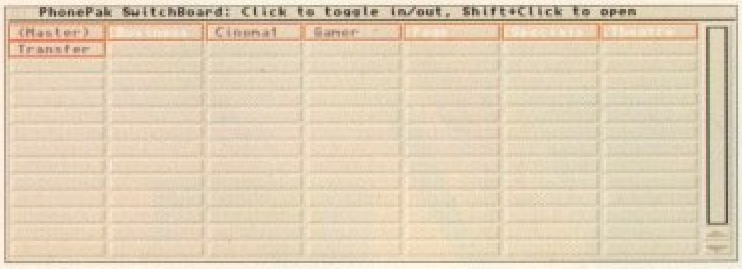
Operator scripts are called from the transfer function which can either be set when a mailbox is created or when the user updates the box.

Typing a string of commands might sound an old-fashioned and clumsy way to control a modern piece of telephonic electronics, and it is, but the flexibility which Operator brings to PhonePak makes this exercise in tedium worthwhile. Commands cover everything from making a line off or on-hook, waiting for dial tones, dialling numbers, playing messages, and so on, and the manual is full of examples of how this power can be utilised.

Paging a person who isn't at his or her desk is one excellent example. Using a script which plays a ring tone to the caller while playing a sample along the lines of "Call for you!" from the Amiga's monitor or TV speakers, then waiting for a certain length of time before playing an apologetic sample and hanging up should demonstrate how much flexibility there is in this system.



Faxes can be sent immediately or scheduled to arrive in the early hours (he! he!)



Switchboard enables the creation and management of whole systems

Fax needs fixing

The way PhonePak handles faxes is probably its weakest link, in software terms at least. In common with Supra fax modems, it utilises either a straight import of Ascii text and IFF graphics or a faxprinter in the shape of the PPakFax printer driver, but the resemblance ends there.

When printing from any program which uses the faxprinter, a high definition image of the printed page is saved in a mailbox of the user's choice, but the awkward way of attaching a phone number to the fax when printing it causes frustration.

Most fax users will create a fax then scribble the number on it before shoving it in the fax machine rather than sit with an address book open in front of them all day.

Finished faxes are sharp and detailed, but the software by which they are created and despatched could do with some extra work. Given that faxes with voice messages attached are one of the supposedly hot new items for these systems, the clunky fax function is a bit of a disappointment, though not exactly catastrophic in extent.



The bottom line

Ease of use 7
Implementation 7
Value for money 8
Overall 7

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Safe driving

Ignorance is far from bliss when your hard drive refuses to work. Ben Pointer advises how to keep on the right side of your

The day I first used a computer that had a hard drive fitted, my world changed.

For years I had been using floppies, inventing ways to cut down the number of disks required to boot the computer and run various software packages. Hard drives were so expensive back then that I simply couldn't afford one.

But now I had this filthy dirty PC-clone plonked on my desk because my colleague had been given a bigger and better machine. It had a hard drive the size of the planet – 10Mb no less! – and it was a billion times faster than a floppy drive. Or so it seemed to me at the time. On went the computer's operating system. On went the various bits of software I used. And that was it. I didn't know, or want to know, how or why it worked. OK, so it made a continual high-pitched whining noise, but I didn't care.

It worked. That was good enough for me. It shouldn't have been, because understanding how something works is often the biggest aid to getting the best out of it, but I "didn't have the time".

Truth is I was frightened of the hard drive because it was something new, and as nobody had the time to hold my hand and show me the ropes, I thought it wisest to let it be rather than risk making a mistake.

I had seen the look on the face of my boss when he had been told by a cringing colleague that his hard drive had "gone down", and while I didn't know exactly where "down" was, it was obviously somewhere pretty close to, if not exactly, Hell. The main difference being that, had it actually gone to Hell, it apparently would have been easier to "recover" it. Nope. Best not touch it. Safest just to use it.

Bad mistake! Within a week my hard drive had joined my colleague's, and I was ordered to recover it PDQ or I could forget about applying for that promotion.

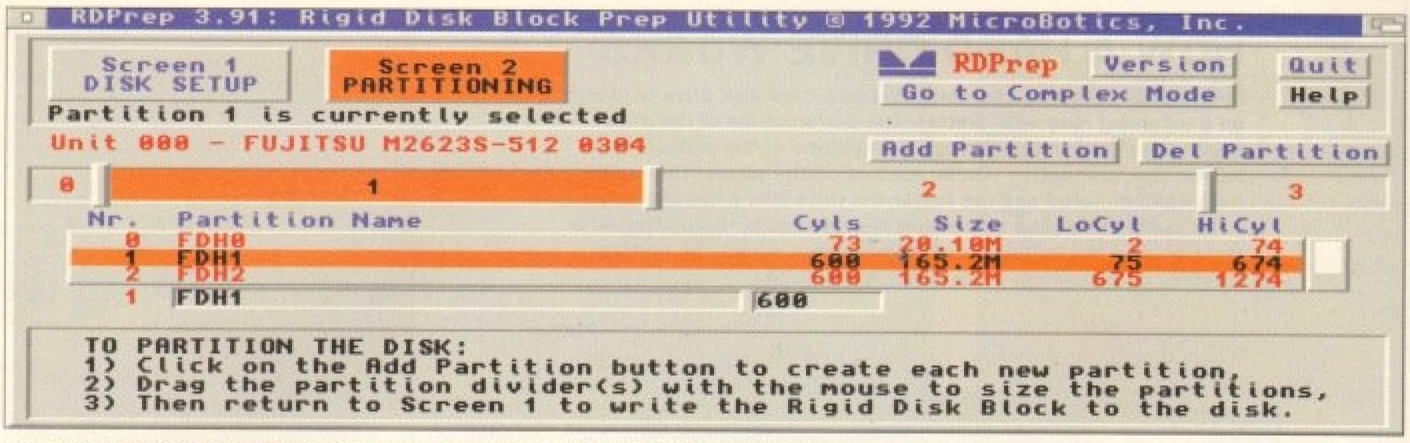
So circumstances forced me to learn about my hard drive anyway, only I learned the hard way.

SEALED DRIVES

I learned from a book that inside the hard drive there were some metal disks, which, because they were thick and made of metal, were stiff as opposed to floppy. I learned that the hard drive was sealed so that no dust could enter the mechanism. And I learned that this enabled the read/write heads to travel closer to the disks, thus enabling the hard disks to be accessed much more quickly than floppy disks. This information didn't help me recover my hard drive. But now I understood why it had gone down. While the read/write heads were accessing a part of one of the metal disks I had tried to move the monitor. I had slipped and let it drop a couple of inches on to the top of the computer case.

This had either caused the read/write head to actually touch the metal disk, which the book told me was a Very Bad Thing, or had jogged the head a bit so that it had written important data in the wrong place and consequently confused the system, which was only a Bad Thing.

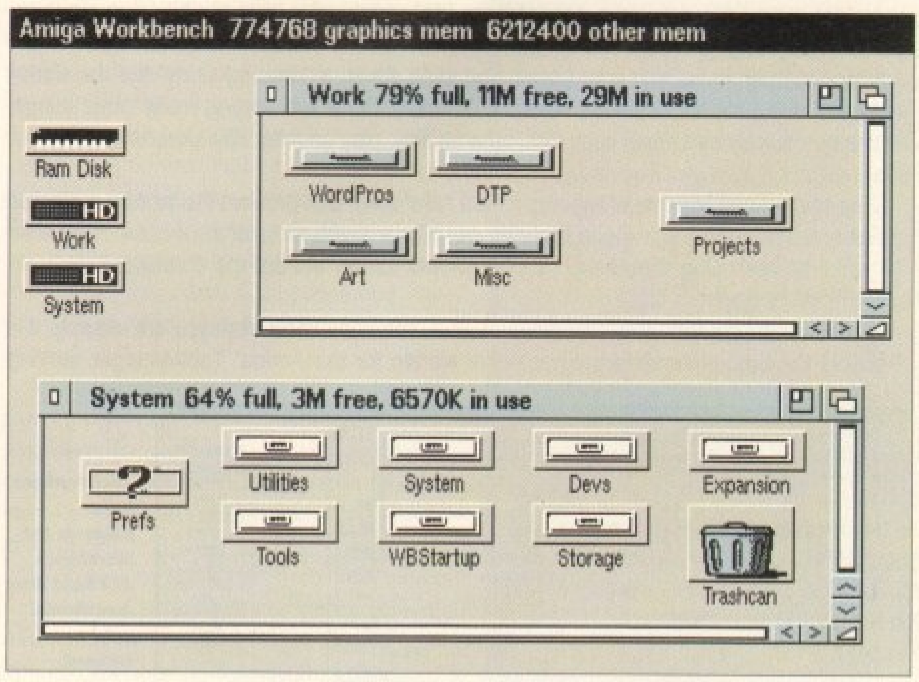
I would have to use a Special Utility to transfer as much data as possible from the hard drive on to floppy disks, reformat the hard drive, and then transfer the data from the floppies back on to the hard drive. This, the book said, took For Ever and Didn't Always Work, although it didn't explain why. In the end it was a piece of cake. I was lucky. I recovered my hard drive PDQ, my boss was well impressed, I got the promotion and overnight became the office's hard ➤



If you are struggling with understanding about hard drives, contact a PD library and get hold of the freely usable RDPrep which contains a veritable encyclopaedia of on-line help

Jargon buster

drawer	When you are using icons you call them drawers, when you are using a command line you call them directories.
IDE	Integrated Drive Electronics.
megabyte (Mb)	1,000 kilobytes or 1,024 kilobytes depending on whether you are selling a hard drive or using one.
operating system (OS)	The programs, on disk and in ROM, that make the computer work.
partition	A section of a big hard disk that is treated as a separate, smaller hard disk.
project	One or more files that comprise a job on which you are working. A text file may be a project of Final Copy, a picture that goes with it may be a project of DPaint; together they are the nut and the bolt you need to do the job so they belong in one drawer.
SYS:	The root directory of the partition or disk from which the machine has booted.

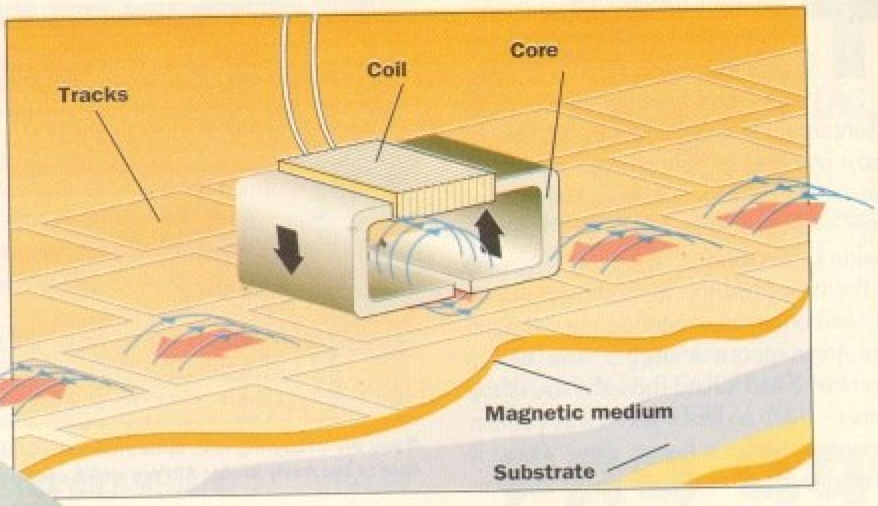


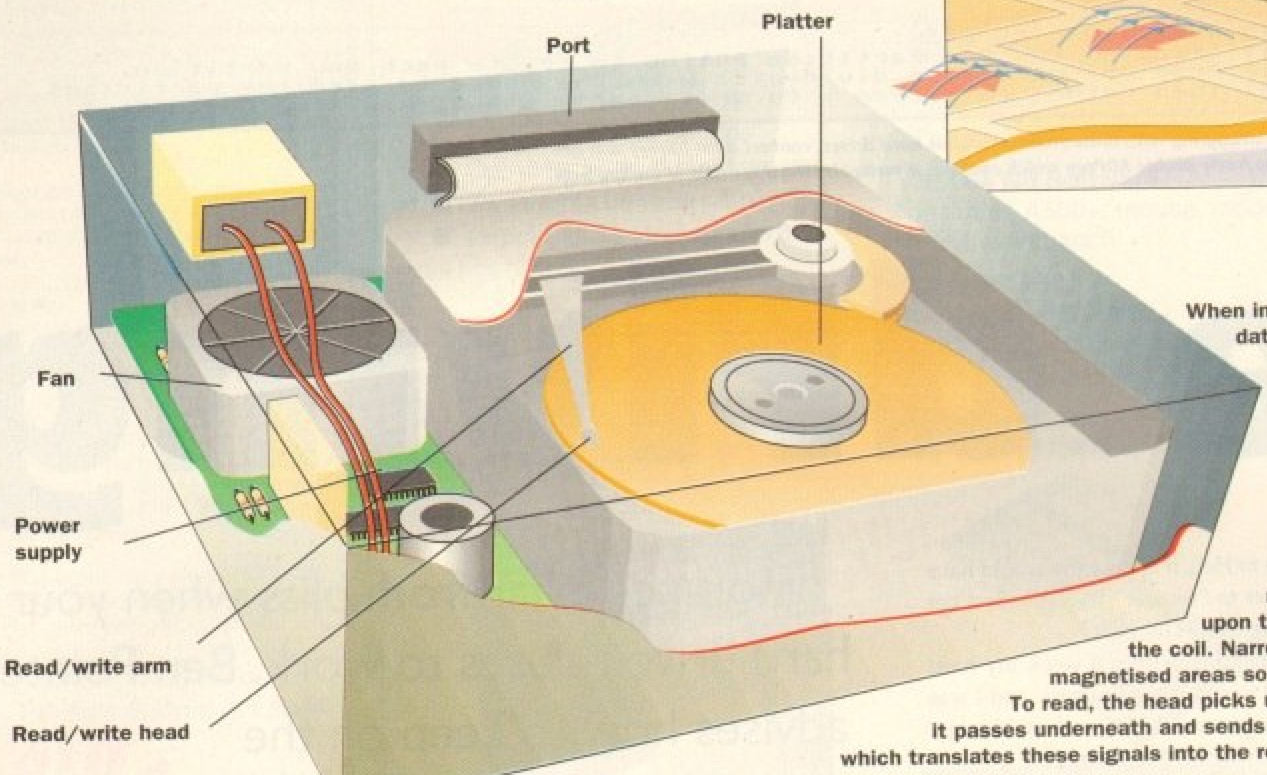
Organising your hard drive neatly will enable windows to open more quickly

HOW A HARD DRIVE WORKS

Information sent from the computer to a hard disk drive is stored on a revolving magnetic platter. The performance of the drive depends largely on the storage capabilities of the platter, the tighter the information can be packed on the platter the more data can be stored and the faster the drive can write and retrieve it.

The read/write head skims over the surface of the platter on a layer of air a few millionths of an inch thick whilst the platter revolves at thousands of revolutions a minute.





When instructed by the computer to read or write data on the hard disk, the drive's logic board first positions the read/write head over the correct track and waits for the revolving platter to bring the correct blocks under the head.

To write, the current is passed through the coil in the head, magnetising the core and creating a magnetic flux at the gap. A microscopic area on the surface of the platter is magnetised, the polarity of which depends upon the direction of the current flowing through the coil. Narrow transition regions are left between the magnetised areas so that separate areas can be differentiated.

To read, the head picks up the polarity of each magnetised area as it passes underneath and sends a small signal to the drive's logic circuitry which translates these signals into the required data and sends it to the computer.

drive expert. The hard drive you have fitted to your Amiga will probably be one of two types, AT-IDE or SCSI, and these terms refer to the hardware and software that is controlling the hard drive – the hard drive "controller" – as well as the hard drive itself.

In use there are no differences between the two systems. In other words, the type of the hard drive is not a consideration when deciding how to set up and organise your hard drive. SCSI drives are not faster than AT-IDE drives, although they are more complex and are consequently more expensive. SCSI controllers allow you to plug in a chain of up to eight SCSI devices – and these can be any kind of SCSI compatible devices, not just hard drives – whereas AT-IDE controllers currently allow just one more hard drive to be chained.

SCSI and AT-IDE are the two most common standards for transferring (or "porting") data from the computer's memory to another device. Printers get their data sent to them eight "bits" at a time via the parallel port, modems get data one bit at a time via the serial port... hard drives receive their data 16 bits at a time via a SCSI or AT-IDE port.

The SCSI standard has now been upgraded to SCSI-2, as seen on the new and at long last available Commodore 4091 hard drive controller, and this supports data transferred 32 bits at a time.

The Commodore A590 hard drive uses the predecessor to the AT-IDE controller, the XT-IDE, which transfers data eight bits at a time, explaining that hard drive's lack of speed. On the back of the A590 is a SCSI port into which you can plug another SCSI device, including another hard drive, which will work faster than the one inside the case.

But no matter how fast the hard drive or hard drive controller, if you partition and organise your hard drive badly you can slow its operation down to a snail's pace.

Similarly, efficient partitioning and organisation can improve the speed of a "slow" hard drive so that in operation it appears to work faster than a poorly pre-

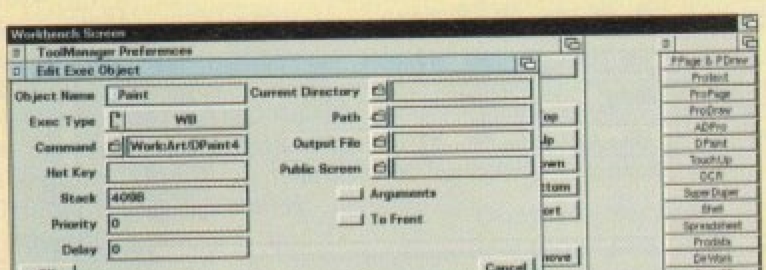
Tools of the trade

There are quite a few programs, may of them PD or shareware, that can help you organise, use and maintain your hard drive.

If working with icons isn't your scene, and even if it is, a "directory utility" like the shareware SID and DirWork or the commercial Directory Opus will, among many other things, help you to quickly and easily copy files, rename files, play sounds, view pictures, that sort of thing.

One of the worst aspects of keeping a neat hard drive, with drawers inside drawers inside drawers, is that getting to any one program can take a dozen clicks of the mouse. Hard drive owners who are using Workbench 2 or 3 should not be without the shareware program called ToolManager.

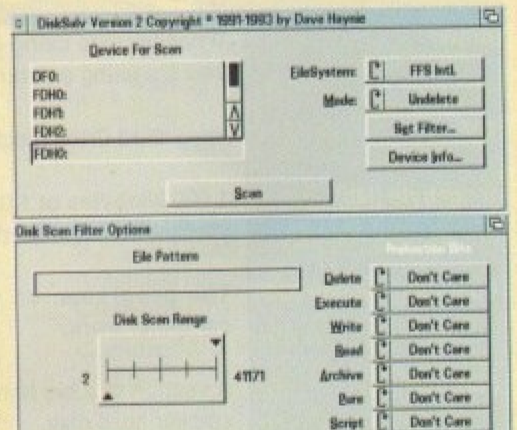
If you haven't got this wonderful piece of work, you don't know what you are missing; it is arguably the best shareware program ever written for the Amiga. ToolManager, among many other things, enables you to put any program into a window on the Workbench, from where a single click on its button will run it. You can even have icons animate themselves and play a sound samples when clicked.



ToolManager is one program the Workbench 2/3 hard drive user should not be without

There are shareware hard drive back-up programs as well, the most popular these days being A-Backup, which seems to get be getting updated and improved almost monthly.

Of the commercial hard drive back-up utilities, Ami-Back and QuarterBack are the most popular, and both of these have associated packages, Ami-Back Tools and QuarterBack Tools, which can help you rescue data when your hard drive goes down.



DiskSalv 2 is the least painful way to salvage data or recover accidentally deleted files from your hard drive

On the shareware scene, Dave Haynie has at long last released DiskSalv 2, which is a superb utility, arguably better than anything of this type available commercially.

It requires Workbench 2 or later though, so 1.3 owners will have to use the old version that has far fewer features and runs only from the command line. If you can't be bothered to back-

pared "fast" hard drive.

In effect, by partitioning a hard drive you turn that single hard drive into a number of smaller hard drives. For hard drives of 52Mb or smaller there's not much point in having more than two partitions – one to hold the operating system files, one for everything else.

I like to give the operating system – Workbench, I mean – about 10Mb, which is twice as much as it needs. This enables me (or hard drive installation programs) to add more commands to the C: directory, more libraries to LIBS:, more preferences setting to Prefs, and so and so forth, without having to worry about running out of space on my SYS: partition – which, to remind me what it is, I name System.

TIDY FILES

I call it System rather than the obvious Workbench because my main partition I call "Work". This partition takes up what is left of the hard drive. I have many different types of programs in Work, and I put these neatly into drawers so that I don't have a zillion program and data icons appear on the screen when I open the Work window.

I have a WordPros drawer, for instance, and inside here are two more drawers that contain the two wordprocessors I use, plus whatever support files and tools that come with those programs.

This pattern is repeated for all the various bits of software I use, and although there's a lot of software and data in there, my Work partition window has just five icons in it – drawers for WordPros, DTP and Art, which is because this type of software is what I use most, plus a

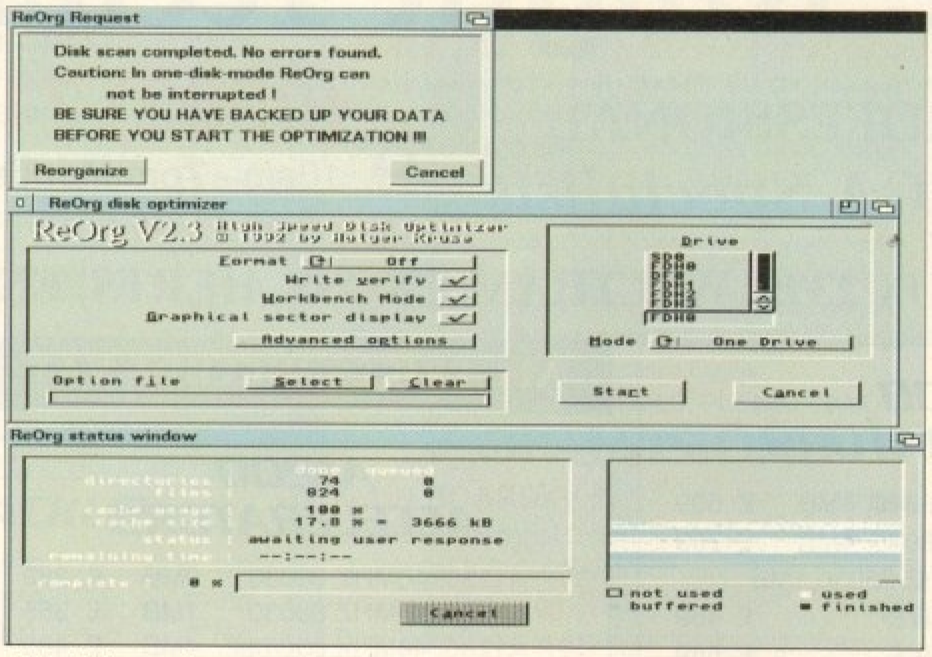
Misc drawer for all those extra little bits and pieces I need from time to time. Inside the Misc drawer are a few more drawers, and inside those drawers are the miscellaneous programs themselves.

Data saved from all the programs I use goes into the fifth icon in the Work partition, a drawer called Projects. I have further drawers inside here to categorise the projects so that they are easy to find.

If I'm doing some work on a single project for my mate Fred that involves some text files, some pictures, a DTP'd document and a sound file, all these data files go in the one drawer named Job_for_Fred in the Work:Projects drawer.

I don't have separate drawers for work saved from a particular art program, work saved from a particular wordprocessor, and so on and so forth, I keep all the files that comprise a single project in a suitably named drawer in Work:Projects.

For hard drives larger than 52Mb you might want to add an extra partition, making three partitions in all. This will speed up disk access times slightly because the read/write heads will never have to travel from one end of the hard drive to the other in order to access files. I've seen some large hard drives that have been partitioned into ten partitions, and while there's nothing to stop you doing this, I would advise against it because it can be counter-productive.



Disk optimisers can destroy as well as enhance your hard drive. Ignore warnings like this at your peril

That said, there are some good reasons to create more partitions. Say your favourite pastime on the Amiga is 3D modelling and ray-tracing, and that you own several modelling packages and have created lots of pictures and animations or whatever.

Then it could make sense to have a partition called Modelling and keep all the programs and data that relate to this subject in drawers on that partition. But you'd still have a System partition for the OS, and a Work partition in which you'd keep everything bar 3D modellers and ray-tracers.

Another popular idea is to have a System partition for Workbench, a Work partition for all your programs and a Data or Projects partition for all the data saved from the programs you use. Why is this a popular idea? Because as you'll have on floppy the originals of all the programs that are on your hard drive, you've no need to back-up this partition, you can always re-install everything from the originals if this partition gets corrupted.

PARTITIONS

But if the Work partition is corrupted, won't the whole hard drive become unusable? No, it is partitions that go down, rarely complete hard drives, and this fact is the strongest argument for having lots of smaller partitions because the more partitions you have, and the smaller they are, the less data is at risk from a hard drive crash.

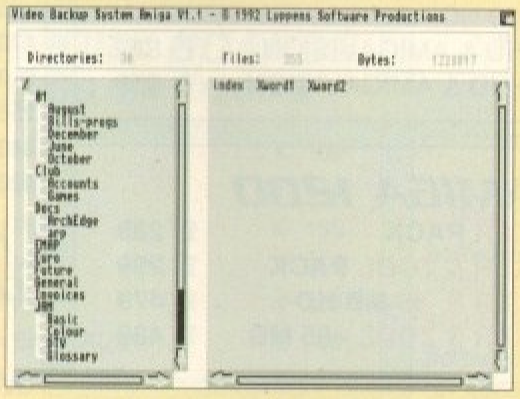
But, as I pointed out earlier, the many-partitions route is often counter productive. Each partition you mount will grab at least 30k of memory from the system. If you went overboard and created 20 partitions you would lose more than half a megabyte of memory.

The most important truth relating to how many partitions you set up is that the more you have, the slower the Amiga itself will run because each of those partitions will have its own "task" multitasking in the background.

With two or three partitions you won't notice any difference in computing speed. After that things tend to get slower and slower, especially on the 68000 and 68020 based Amigas.

up to floppy and you can't stretch to a tape-streamer or second hard drive dedicated to the back-up, the next best alternative is Video Backup System (VBS), which will back up hard drives to standard videotapes using a standard video recorder.

There are two type of utility you should steer clear of unless you have made a back up of the hard disk before you use them – disk editors and disk optimisers. Disk editors give you a view of the disk at the bytes level, and unless you know what you are doing you can very quickly corrupt your hard disk with them.



If backing up to floppy sounds like too much hard work, consider getting hold of Video Backup System

Disk optimisers attempt to reorganise the data on a partition so that it can be read more quickly; performance increases on hard drives are usually quite small and there's always the danger that at the end of the operation you'll be left with an unreadable partition. If the Amiga crashes during an optimisation session, the air will be blue if you have not got a recent back-up.

Finally, the temptation for owners of small hard drives is to "crunch" everything in sight with a program like Powerpacker or Imploder. These programs, like all other programs, are not perfect, and if you find that your system is crashing a lot I would suggest that it is because files are not de-crunching correctly, particularly if you are using Powerpacked files.

Frequent questions

Q When I boot from my hard drive the Amiga tells me that one of my partitions is not validated. I can read from that partition and run programs from it, but it won't let me save anything. What do I do now?

A *Transfer all the data on the partition that is not validated on to floppy disks, re-format the hard drive (you can use the Workbench Format Disk menu item or the Format command in a Shell), and then transfer the contents of the floppies back on to the newly formatted partition. A hard drive back-up utility will make this job easier.*

This hard drive error occurs most frequently because the Amiga has crashed while some program was still writing to the hard drive. The same error will occur if you reboot the Amiga manually while the hard drive is still being written to.

Q I am getting dozens of read/write errors on my hard drive. It's only six months old. What do I do?

A *Back-up the entire contents of your hard drive, re-format all the partitions, then restore the back-up. If you still get lots of read/write errors contact your dealer and ask for a replacement. Hard drives should never develop this number of read/write errors after such a short period of use.*

You should check that you are not exposing your drive to extreme temperatures. If the disk is in the drive gets very warm they will expand very slightly.

If you write data to the drive while the disk is expanded, when the temperature lowers and the disks contract the computer will not be able to read that newly-written data because it will be in an ever-so slightly different physical position on the disk than it was when it was written.

Q How comes a program that says it needs 2.5Mb in order to run won't run on my 52Mb hard drive?

A *In the days when memory was measured in kilobytes, this confusion never arose. But with the Amiga now coming with 1Mb or more of memory as standard, it's easy for a new hard drive owner to assume that the megabytes of the hard drive are the same thing as the megabytes of memory.*

Alas, they are not. Programs will be stored on the hard drive, but when you want to run them they need to be transferred from the storage device (the hard drive) into the computer's memory. If you don't have 2.5Mb of memory, then a program that says it needs that much won't be able to load and run.

Q I have a hard drive plugged into the expansion port of my Amiga 500 Plus. I am going to upgrade to an Amiga 1200. Will I be able to use my hard drive with the 1200?

A *No. The expansion bus on the 500 Plus is incompatible with the 1200.*

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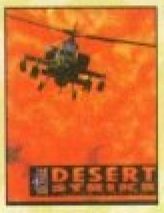
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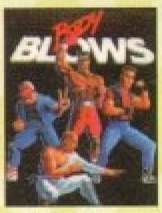
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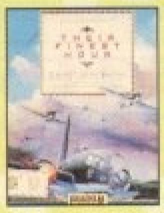
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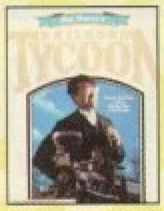

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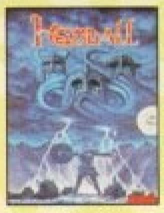

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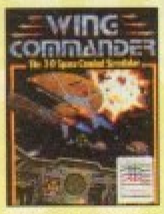

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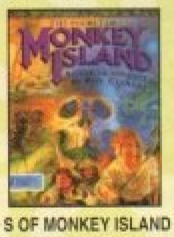

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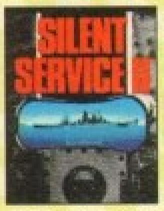

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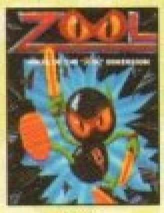

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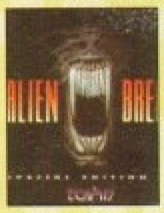

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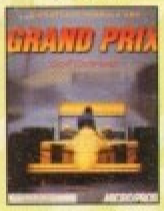

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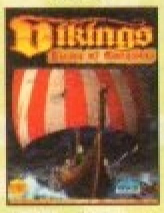

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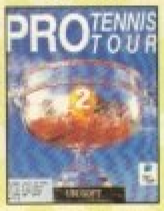

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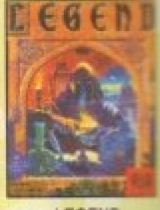

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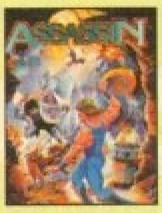

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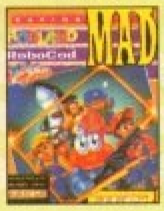

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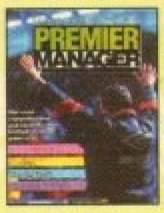

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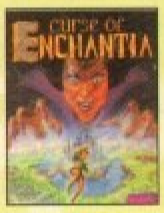

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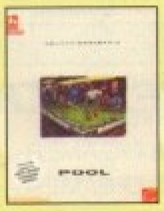

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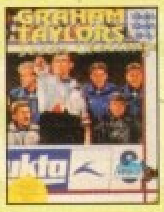

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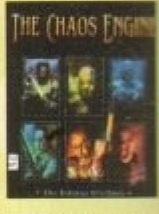

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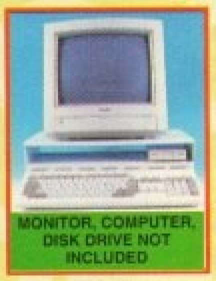
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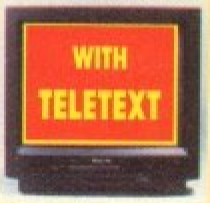


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INTERACTIVE

The closing date is September 10, 1993. The prize winner will be drawn from all the correct entries received and will be informed in writing within two months of the closing date. Result information may be obtained by writing to our offices. No cash alternative to the prize is available. The editor's decision is final. No correspondence will be entered into.

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1 How many shots can the screen-based edit commands move, copy, insert or delete in seconds?

a. 100 b. 260 c. 300

2 How much does Videopilot retail at?

a. £900 b. £1,300 c. £1,800

3 How many video players/recorders can be used at once?

a. two b. three c. four

Ezra Surf's Postbag

ESP

Where's the support?

I feel the urge to write to you regarding the Amiga 4000 and how angry I am with Commodore in not encouraging big companies to write serious software for this excellent machine.

I bought my A4000/030 only a couple of months ago and during that time I have only seen a couple of serious new titles for the machine.

All the rest have been new versions of software like Wordworth 2.0 AGA, which I have used to write this letter, or even more games software.

I feel I have been misled by Commodore to think that a flood of new business software will appear for the machine, and I'm very disappointed with the hardware being released, most of which is out of date when compared to peripherals for the PC. Just flick through a recent PC magazine if you don't believe me.

Although the A4000/030 is quite a powerful machine I feel that Commodore should have fitted extra hardware such as a SCSI interface, CD-ROM drive, more memory, higher resolution graphics, and 32,000 register colours, as you can buy a 24-bit graphics card on the PC for only £51.

Why don't Commodore sell the machine with a monitor? The A4000/030 is overpriced because it doesn't come with a decent multiscan monitor, and at the very least should have some bundled software.

If Commodore are serious about CD-ROM multimedia, why have they done so little to promote CD on the A4000? You can buy a complete PC CD-ROM package including the drive, Corel Draw painting package on CD, sound card, speakers, SCSI interface, and software for £299.

Commodore had better hurry up and do something as it seems the IBM has a positive lead over the Amiga in this area, especially at that sort of price.

DTV has improved considerably and the Amiga's advantage as the ultimate DTV station is slowly slipping away. Composite video cards on the PC have also fallen in price while their specification has improved. You will still need an A520 modulator or genlock to put animations or graphics to videotape on the Amiga.

So when can we expect to see powerful software in large quantities on the Amiga platform at reasonable prices, or will the image of the Amiga as a games machine never rub off?

Mark Bowles, Horsham

We agree and have always agreed that Commodore should sell machines with monitors at an aggressive price, encourage more serious software development, and market the Amiga in a more professional fashion, but we can't take the overly pessimistic stance which you seem to adopt.

The PC market has come a long way since the days of green screen-induced boredom, but the examples you quote are very selective and not particularly relevant.

Take, for example, the so-called multimedia explosion. This has become so ridiculous an exercise that a low quality CD-ROM drive, a couple of games, a sound card, and some dodgy speakers can be bundled together and sold as a "multimedia pack" despite the fact that the ensemble has as much to do with multimedia as Polly Peck has to do with good business practice.

Again, talk of composite video cards will probably sound strange to the ears of Amiga owners because the Amiga has its own built-in "composite video card" in the shape of its custom graphics chips which supply the best video signal of any computer in the home or desktop markets.

In addition, the Amiga's built in "sound card" – the Paula chip – is still superior to Soundblaster even though now long in the tooth.

Commodore have been slow to release the A4000 internal CD-ROM drive, but it is now due for imminent release, and with the advent of the CD-based Amiga console, should benefit from the boost in CD software which will follow.

Finally, any talk of the Amiga's position in the video and multimedia markets should be tempered by a look at next month's review of the Video Toaster for the A4000.

It speaks volumes for the sheer quality of the Amiga platform that although its parent company has failed again and again to market it properly and support it in enough depth, it is still used in millions of homes worldwide and in many areas of the professional video and multimedia markets.

Protext fix

I just purchased an A1200 and an 80Mb hard drive, but upon installing Protext I got the "can't open screen" message reported by other readers.

The cure is simple. Just alter the config file so that screen mode is changed to NEW SCREEN/STANDARD DISPLAY.

To get the config program to run, load Protext from floppy, then from within Protext run the config file and change the above option, and save the config file to the Protext drawer on your hard drive. Mine loads every time now.

That's all there is to it and this fix also applies to Prodata. I am typing this using Protext on my A1200.

I McMahon, Lisburn, Co. Antrim

Thanks for the tip. Hope it helps a lot of you A1200HD owners out there who might be having Protext trouble.

Games tester

I've just received my July issue of your fantastic magazine, and as usual I went to the contents page to see what would appeal to me the most. The first thing to catch my eye was "A1200 software" in the *Gamer* box.

"At last," I thought, "a list of what works and what doesn't." But how accurate is the list? F16, Test Drive 2, and Z-Out are listed as incompatible. Wrong! I've got all three and they work. XJ220 is listed as disable caches, yet I was told different. My other advice may be wrong, but I was told it works straight off. Monty

➤

Hard drive hassles

Prize Letter

I recently had to call out Wang to repair my computer, but though the date and time was arranged no-one turned up. I phoned Wang's headquarters to ask what happened, arranged another day, and again nobody showed up. That was the second day I had taken off work!

Unfortunately it was a Friday with a two-day Easter bank holiday on the Monday and Tuesday, so when I finally got through to Wang on the Wednesday, it was nearly two weeks since my first phone call. Someone finally turned up the next afternoon to replace my motherboard, but I was told by the engineer that I didn't have a drive cradle for the internal hard drive.

Can I just say to Commodore UK to sort out all the nitty-gritty and get something done about the four-day call out, or should I say the two-and-a-half week call out? Some people would claim compensation for taking two days off work, but I can forgive Wang for their own mistakes.

What I want to know is how am I going to get a hard drive when I haven't got a drive cradle? The warranty seals business is a farce as I can obtain a hard drive very cheaply, but if I try to install it into my machine my on-site warranty will be void.

Commodore should sort this out as the Amiga user only wants to put a hard drive into the machine. A user like myself could fit a drive and still retain the warranty as the drive fits outside the metal shielding well away from sensitive chips, so come on Commodore, sort something out or the Amiga is going to be left behind as just a has-been computer.

Manprit Bains, Huddersfield

Yet another A1200 owner comes to the same conclusion - Commodore have made a mess of the A1200 hard drive market by launching the machine with no hard drive model, then allowing third-party distributors to strike their own deals with Wang for the supply of an A1200HD.

We at Amiga Computing think it outrageous that there exists no official upgrade path for the floppy-based A1200 user who wishes to fit an internal drive before the one year warranty runs out and we can only hope Commodore will listen to the genuine concerns of Amiga users.

Python is the opposite. It is listed as compatible, but you have to disable the caches or the graphics become corrupted.

I know this is only five games from the 334 listed, but I haven't got the other 329 to try out (unfortunately). To overcome this, how about compiling a list sent in by your readers? That way it's all first-hand experience of compatibilities not the word of another magazine, or whatever *Computer Trade Weekly* is.

Could you tell me if KGB, Lotus 3, and Elvira 2 are compatible, as they weren't listed. Finally, I noticed that a game exists called "Hitch Hiker's Guide". Is this the game of the series of the book of the travels of Arthur Dent? If so, what sort is it, is it worth getting, and where can I get it?

S Dolphin, Lossiemouth

Sorry you found that the list wasn't completely waterproof – I would have been interested to know which games you found were correctly listed.

As for your three games, they should all be fine as all are recent releases and I've heard nothing about A1200 problems on any of them. Check before you buy at the software shop, though.

Hitch Hiker's Guide To The Galaxy *is an Infocom text-only adventure based on the Douglas Adams books and partly developed by the man himself.*

If you can get your head around the idea of a game with no graphics (kids these days – don't know they're born), you will find it in the Lost Treasures of Infocom pack sold by Eagle Software on 081-361 5730.

For a slice of hilarious, challenging, and utterly brilliant computer game history, this is highly recommended.

Got something to say through the pages of AC? Ezra Surf is our mailman, dedicated to reading your letters and selecting the most interesting for publication. Drop him a line at:

Ezra Surf's Postbag , Amiga Computing
Adlington Park, Macclesfield SK10 4NP

Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to shorten your letters, so don't be offended if you end up getting the chop

No prize

In your issue 62, I used my keen senses to spot that you only had one compo, the one on page 130. So come on, *AC*, how about more compos?

Do I get a prize for my clever, smug, pedantic gem of info?

Daryl Booth, Ramsgate

If the readers want more compos we'll run more, but you don't get a prize for page counting. Sorry, but life's a lottery after all.

Music winner

I entered the Miracle keyboard competition in the March issue of your journal and was amazed when one turned up on my doorstep. I was delighted to win as I have been looking for a suitable keyboard for some time.

It is simple to set up and the excellent software works perfectly with my Amiga 4000/030. Without wishing to do Mindscape's advertising, I would recommend it to anyone who, like myself, wishes to learn to play the piano.

Steven Dacre, Wolverhampton

Shareware glee

I thought I had to write in support of Pete Wiseman, the author of Klondike 1.3 on your May CoverDisk. I sent off my fiver and in little over a week I received v2.0, which is a major rewrite including different sound effects, four different sets of card graphics, and another variation on the theme called Demon – all for £5.

I would urge anyone who enjoyed Klondike 1.3 to send Pete the shareware fee. It's worth it.

Name and address supplied

It's good to hear of a reader who not only supports the shareware principle governing so many of the non-commercial programs on our CoverDisk, and even better to hear that the author concerned responded quickly to your registration fee.

Just goes to show that shareware isn't dead.

Primitive printers

Having used computers at my workplace for many years, I have come to take for granted that when I press a button to print a document it will pop out of the laser printer around the corner quickly and efficiently.

This illusion was shattered, however, when I recently purchased a Hewlett Packard Deskjet 550 printer for use with my A1200.

Though the printer is capable of superb output, I found the whole process of connecting it to my Amiga, setting up the various programs which would use it, and finally making sure that I knew the difference between the various types of output I had to choose from a complete and nerve-destroying nightmare.

Why are printers so advanced these days yet the system by which they are controlled so primitive? The preferences section of my Workbench disk seems much more of an obstacle than an aid to my final document.

Surely someone should mention this to Commodore? I mean, there are so many different printer drivers, font standards, PostScript, and a million and one other stupid jargon phrases that my head has been in a constant whirl since buying the HP.

I'm thoroughly disappointed that the Amiga, even at Workbench 3.0, can't compare with the Macintosh machines we use at our office. These, though a bit slow and useless for multitasking, are very stable, easy to use, and all use the same print standard which I don't have to mess about with.

J Edgar, Barnsley

You are by no means the first user to suffer under the printers cosh and will not be the last. Our survival guide to printers last month was designed to take some of the mystery out of the process, but using printers on the Amiga can be so complex that to cover the subject entirely would take a special issue on its own.

The problem, I suspect, originates with the first Workbench preferences programs and printer drivers which were so poor that no-one really accepted them as a professional standard.

As software manufacturers went their own way and developed their own printer drivers and so on, confusion seeped in and preferences never really improved.

With Workbench 3.0, the situation is much better, but we would all still benefit from some sort of automatic printer selection and installation method which negated the need for users to copy printer drivers from one disk to another.

Antipodean Amigan

My husband has just bought me an A1200 with 40Mb hard drive to upgrade me from my old clunker IBM-compatible Commodore Colt.

Hooray! I said and rushed out to buy the only Amiga magazine at the newsagents, your March issue. Trouble is, I still haven't got the Amiga to run due to lack of a 23-pin adaptor to hook up my 1084S monitor.

None in Queensland. None in New South Wales. Why can't Commodore supply them as standard inside the package? Three weeks and eight long distance phone calls later I finally got the promise of a connector lead on receipt of a cheque.

I have read the March issue backwards and forwards and inside out and now the April issue has just arrived in the shops. I managed to get a back order of February, but no January issues are available in Australia according to the importers.

After dabbling in GW Basic, I'm wondering what language to learn as I am over 60 with plenty of time on my hands. It will need to be fairly simple and enable me to use graphics either from DPaint or animations. Will I have to purchase a book on AmigaDOS or is it similar to IBM's Commodore Colt DOS?

Finally, your tutorials for beginners lack one thing – a small type-in mini-program, one even a child could do. Such listings are a wonderful teaching medium and morale booster.

Beverley Johnston, Queensland

Glad to hear you've seen the light and bought yourself a good machine, and I hope you'll find the A1200 both fun and a very useful tool.

The situation in Australia seems to be fairly adverse for most Amiga users, and we can only hope you receive satisfactory service from whichever UK mail order house you are using.

Anyone emigrating to Australia might be advised to think about setting up an Amiga mail order dealership over there, don't you think?

Sorry you seem to be having problems finding certain back issues, but the January issue went like hot cakes and we have very few left. Try our back order service on 051-357 1275, though I can't guarantee they'll have any either.

For ease of programming and the ability to quickly manipulate graphics, Easy Amos, from Europress Software, or Blitz Basic 2 from Acid Software of New Zealand will do very nicely.

Europress Software can be contacted on 0625 859333, but I don't have a number for Acid Software as their UK distributor recently ceased trading.

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Delving into disks

If you thought all disks were the same, Mark Smiddy has some news for you in the fourth instalment of his AmigaDOS tutorial...

If you had two apparently blank disks and examined their contents from AmigaDOS, you would see they look exactly the same. So what makes a boot disk bootable?

Think back to what happens when you format a disk. The formatting process has two stages: during stage one, AmigaDOS marks out the sectors on each of the 80 cylinders (double-sided tracks). In the second, much shorter stage, AmigaDOS initialises the disk by adding the root track and boot sector information. We'll come back to the root track shortly, but what about the boot sectors?

The boot sectors are the first two sectors on any AmigaDOS disk and account for 1k of disk space. When the machine is first switched on and a disk is inserted, AmigaDOS loads the contents of these sectors and looks for a boot program. If one is found it is executed and the machine starts up.

The so-called "limpet" viruses, still prevalent on the Amiga, "live" here by attaching themselves to the bootblocks: replacing the legitimate code with their own.

Upon first initialisation, AmigaDOS writes just disk type information to the bootblocks. The standard boot code required to make the machine start up must to be added later. First though, some preparation. You will need your working AmigaDOS disk.

Boot your working disk and open the Shell. Now enter this:

```
1>RESIDENT C:INSTALL
```

The command "RESIDENT" is used a lot in AmigaDOS – so it is worthwhile taking a few moments to study it. RESIDENT is mainly used to pre-load disk-based AmigaDOS commands into memory where they can be accessed easily and quickly.

Many AmigaDOS commands are located on your Workbench disk and have to be loaded every time you use them. That's one reason single-drive users are constantly being asked to replace the Workbench disk: you can find more information on RESIDENT in the panel.

To create a bootable disk, you will need:

- The blank, formatted disk from earlier
- Your working AmigaDOS disk

Reset your machine and place the blank, formatted disk in the internal drive. Notice how the initial startup screen vanishes briefly and reappears? That's because although AmigaDOS can recognise the disk, it does not have a valid bootblock.

Remove the blank disk and insert the Working AmigaDOS disk. When the Workbench screen appears, open the Shell. Make sure your formatted disk is write-enabled: the blank write protect shutter is closed. Now, pop your formatted disk in the internal drive and enter:

```
1>INSTALL DF0:
```

This command automatically writes the correct information to the disk's bootblocks – you will see the drive light come on momentarily. It has another function though, which we'll come back to shortly...

Leave everything as it is and reset the machine. This time the boot screen does not appear: you have been taken directly to AmigaDOS instead. Remove the disk from the drive and enter the following:

```
1>FORMAT DRIVE DF4: NAME EMPTY
```

A requester will appear asking you to replace volume "BootDisk" in any drive; your disk is now the default system disk! Pop your disk in the drive and OK the request. AmigaDOS now responds:

```
FORMAT: Unknown command
```

Oh dear! AmigaDOS expects to find its commands located on the boot disk and they are not there. In fact, all the main commands live in a drawer (directory) called C. Incidentally, you can view this from Workbench using the Window -> Show... All Files option.

DF4, in case you were wondering, is a deliberate mistake – you wouldn't want to accidentally format your Workbench disk, now would you?

Not all AmigaDOS commands are disabled; some of the smaller ones are built in to the ROM. You can check which, like this:

```
1>RESIDENT
```

The list produced shows all the commands which are available at any time from any shell. RESIDENT is itself an internal ROM command. You can check where any command is quickly using WHICH like this:

```
1>WHICH RESIDENT
Internal RESIDENT
```

The INSTALL command has another useful feature you might like to try out – it can check disks for their bootability suitability (tee hee) and for certain viruses too. You'll need the installed disk from earlier, your working AmigaDOS disks and a selection of other disks for this demonstration.

Reboot your machine with the Working AmigaDOS disk and make the command ➤





resident. Now enter the following from the Shell:

```
1>Install DF0: CHECK
```

AmigaDOS should respond with a message like this:

```
Appears to be a normal 2.0 OFS bootblock
```

AmigaDOS is telling you the disk can be used to start the machine as we saw earlier This disk should be your bootable Working AmigaDOS disk, so you would not expect any less.

Replace the Working AmigaDOS disk with a disk chosen at random from your collection and repeat the last step. You will get one of the following messages:

```
Appears to be a normal 2.0 OFS bootblock
Appears to be a normal 1.2/1.3 bootblock
No bootblock installed
May not be a standard bootblock
```

The last one may indicate something to worry about. It suggests there could be something on the disk that should not be there. Typically this message is returned by games and many PD demo disks, which have their own customised bootblocks.

However, whenever you get this message, you should check the disk with a good virus checker since it may indicate the presence of a "limpet" virus. You may like to take some time out to check the rest of your collection. Illegally "pirated" disks are a good place to start, but of course, you don't have any, do you?

In the protected environment we call Workbench, we never think twice about what a drawer really is, what the Trashcan does, or what tools have to do within the universal scheme of things.

When we leave Workbench and progress along those dark, dusty corridors of AmigaDOS, it becomes necessary to learn more about what goes on under the hood.

Probably the most basic part of all this is the hierarchical system of directories; and to understand what this means it helps to understand what the words mean! The base of "hierarchy" and "hierarchical" is heir. Most people understand Prince Charles is heir to the throne of England, but what has this got to do with computers?

An heir is the child of a couple, and each parent has two parents (the child's grandparents) and so on. We can show this diagramatically as what's commonly called a family tree or hierarchy: Figure I (it looks more like the roots than the tree itself though). Brothers and sisters in this scheme are called "siblings".

Computers base a system of directories on this system. However, any directory only needs a single parent and all directories are tied back through a series of branches to a common seed.

We call this the "root" directory and it is always located on the root track of a disk (the root track on 880k floppies is located at disk block 880 and this explains why, when block 880 fails, things go horribly wrong).

The children of any directory are called its sub-directories and they are all siblings belonging to the same common parent. So what is a directory then? Remember drawers from Workbench? Same thing!

The only difference between a directory at AmigaDOS level and a drawer on the Workbench is that the drawer has an icon tied to it – a so-called "dot-info" file. Hidden drawers viewed using Show...All Files are normal AmigaDOS directories. Let's take a look at that now. Boot your machine with your Working AmigaDOS disk. Open the Workbench disk as normal – don't bother with the Shell yet. Now select Show... All Files from the window menu – just to make sure you can see everything.

You are currently looking at the main (root) directory of your AmigaDOS disk; which, among other things, contains several child drawers (directories) such as S, C, Libs, L and Devs.

Open the Devs drawer and study its contents. You will be able to see some files marked "nnnn.device" plus more child drawers like Printers and Keymaps.

We call these children "sub-directories" of the Devs directory; the Devs directory is a sub-directory of the root directory; Printer and Keymaps and grandchildren of root or sub-sub-directories. These latter analogies are never used in the real world: the blanket term "user-directory" is used instead.

The reason is simple – the AmigaDOS hierarchy is infinitely extensible and although it rarely gets more than a four or five levels deep, a depth of over 870 sub-directories is theoretically possible on a floppy disk!

As a parting gesture for this month, here is how to view the AmigaDOS structure from the Shell. Several commands are in charge of directories: their creation, removal and view – but we'll use a simple one here – DIR.

The name comes from DIRectory. In order to get the best from this command and use it at its simplest level, we'll make it available directly from the Shell with RESIDENT. Here's how:

```
1>RESIDENT C:DIR
```

We are loading the command DIR from the directory "C" in this example – more of which next issue.

Make sure your Working AmigaDOS disk is in some drive (it doesn't have to be in the internal one) and enter this:

```
1>DIR
```

AmigaDOS responds by displaying the contents of the current disk. Don't worry what all that means for now – all will become clear soon. At this stage, you will be able to see which names are directories because they are displayed with (dir) after their name.

Now, place any disk in the internal drive (you can leave the working AmigaDOS disk in there if you wish) and enter this:

```
1>DIR
```

AmigaDOS asks for the Working AmigaDOS disk back again! It thinks you mean the current disk – which is actually your Working AmigaDOS disk. Don't pull your hair out just yet...

One way to get a listing of any disk in the internal drive, is to specify the drive by name – just as we did with INSTALL. Here's how:

```
1>DIR DF0:
```

That's fine so far, but you can do that from Workbench with less hassle. Here's a variation on DIR – without description – that will keep you thinking until next time:

```
1>DIR DF0: ALL DIRS
```

AC

The ins and outs of resident code

Deep back in the mists of time, all of AmigaDOS was disk-based. The reasons behind this are not worth discussing here, but as Amiga software has progressed, much of the language has been improved.

With the release of AmigaDOS 2, a large amount was moved into permanent ROM storage. You can make most commands resident like this:

```
1>RESIDENT C:nnnn
```

where "nnnn" is replaced by the name of the command in question. Some commands cannot be made resident for a number of reasons, but these will be explained when we encounter them.

In the meantime, you can use RESIDENT to discover which commands are built-in by calling the command without arguments – like this:

```
1>RESIDENT
```

You will see a long list of the commands under the headings Name and Use Count. Name is just the command name (advanced users can set their own names).

Use Count defines how many times the external code is being shared OR if a command is internally available in the ROM. But hang on – what is external code? And what's sharing got to do with it? You don't need to know this yet and can return to the main text now – the insatiably curious should read on.

Making a section of machine code resident in RAM is not a new idea and it is really rather involved. This explanation is meant to serve as a brief introduction – you can get more detailed descriptions in AmigaDOS reference books (such as *Mastering AmigaDOS 2 vol 2*).

A program (command) is said to be resident when

- It is loaded into the machine's ROM or RAM memory.
- It can be used any number of times and always behave in the same manner; such code is said to be re-entrant.
- It can be used by many processes at the same time (shared) without falling over: this code is re-executable.

The last requirement is paramount for any command which may be called on to work in a multitasking environment, because two or more processes (Shells) might try to use it at any moment. Any code which complies to the last two conditions is referred to as "pure" and will be loaded by RESIDENT. The command knows if some code is pure because its "P" (pure) bit will be set – you can check this using:

```
1>LIST C:nnnn
```

where "nnnn" is the name of the command. A set of eight "flags" appear usually (——RWED); if this contains "P" then the code may be made resident; if not, leave it alone.

The RESIDENT command includes a Use Count figure which shows how many processes are sharing a command at any time, although few people ever bother to check this. A Use Count of 0 shows the command is idle and one showing INTERNAL means the command is part of the ROM operating system.

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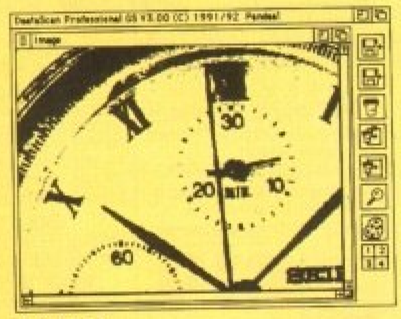
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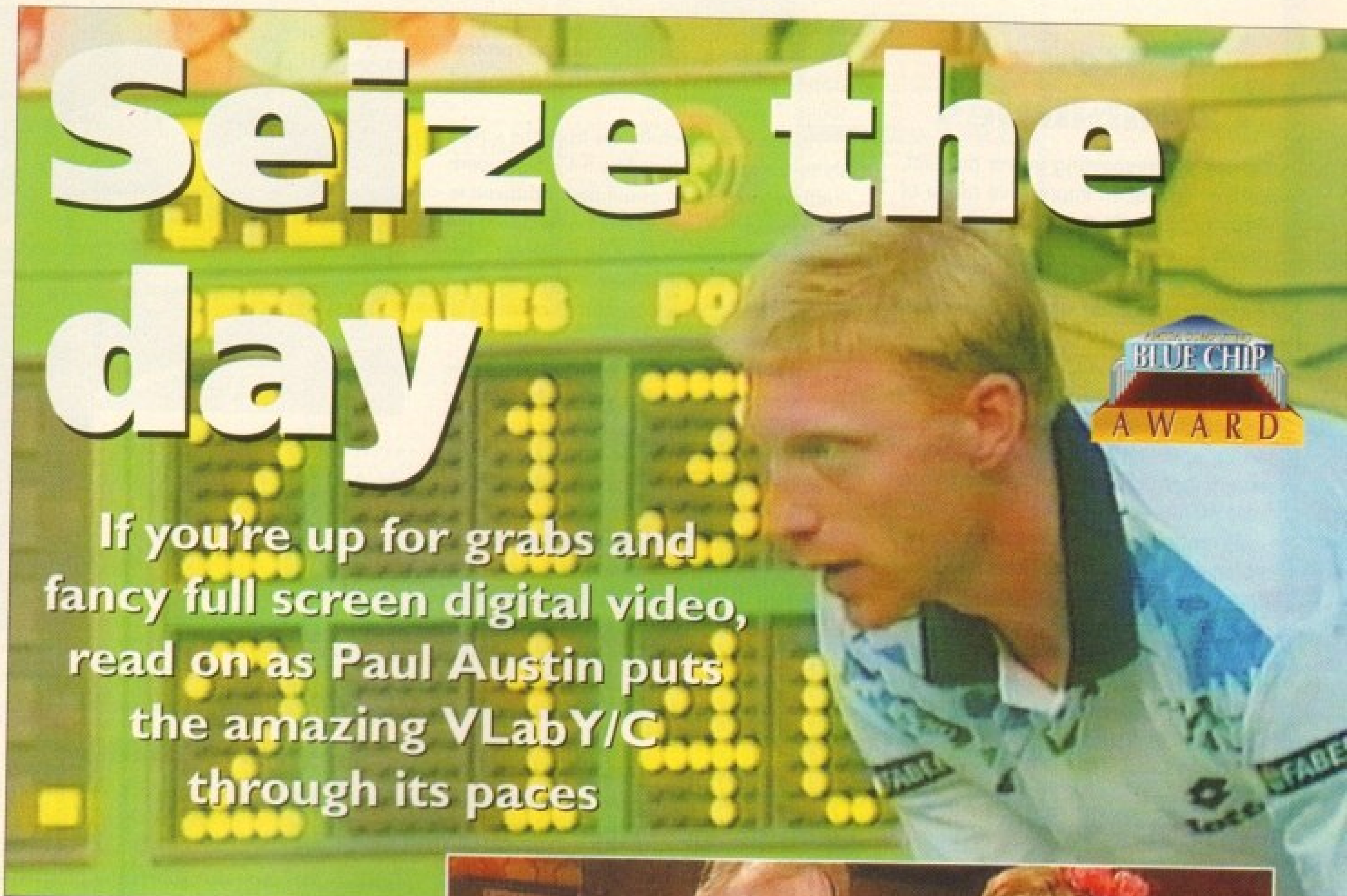
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Seize the day

If you're up for grabs and fancy full screen digital video, read on as Paul Austin puts the amazing VLabY/C through its paces



As far as grabbing live video is concerned, VLabY/C has been the product to beat for well over a year. Only recently has its dominance been challenged by 24-bit boards such as the new IV24 v2, which although basic does match VLabY/C when it comes to pure image quality.

One of the reasons for the IV24's new found success is its support for Y/C or S-VHS – a format which is now on offer within the all-new VLabY/C.

Leaving prices aside, the obvious question is: If both systems offer great image quality, why not ignore VLabY/C and opt for the IV24 with its 24-bit paint package, Caligari, and assortment of multimedia tools?

In short, the answer is flexibility. Although fine for importing grabs into the paint package, that's about as far as the IV can take its digital captives. For VLabY/C, however, that's just the beginning.

INNOVATION

Contributing greatly to VLab's flexibility is an amazing new innovation – interleaved frame recording, or IFR. To say this feature is revolutionary would probably gain me a place in the understatement hall of fame.

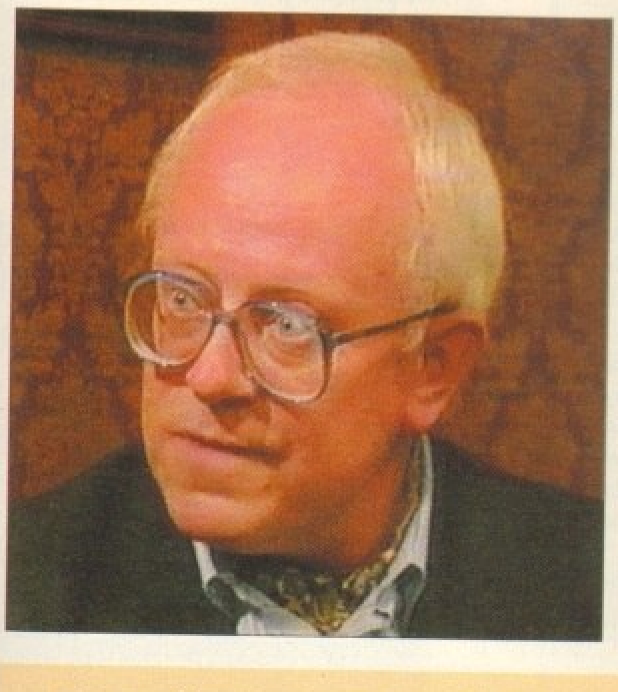
With the assistance of IFR, VLabY/C brings the Amiga its first frame-by-frame digital video recorder. Courtesy of some truly amazing coding, IFR allows you to capture every frame from a video sequence without the need for timecode of any kind.

To initiate the process you simply set up the tape just prior to the sequence you want, press play on the VCR, open the IFR window and instruct the software to choose a key frame. When an appropriate frame is found, the software asks you to select a starting point. Once chosen you simply hit start. The program will ask you to rewind a few seconds prior to the key frame.

The tape is then played, the key frame located and once the start frame is found the grabbing begins. At this point the software grabs as many images as it can storing them in a predefined directory.

Once your particular combination of CPU, memory and storage medium has captured all it can, you're again prompted to rewind the tape and the process begins again with the software locating the key and start frames and then grabbing frantically until full.

The really amazing part is the accuracy of the system. By simply using these two frames as a reference the software can remember which frames have already been captured. As a result it then skips them in preference for the frames which were missed in subsequent passes, thereby slowly building up the complete sequence.



Reg stunned as VLab Y/C sells out at Alf's Mini Mart (Ham8)



Racquel looks on as Jack explains the benefits of a Y/C signal

I must admit that prior to using the IFR I had my doubts about the system making good on its claim to accurate frame-by-frame importation, but a difficult as it is to believe, it never faltered – even on hi-res, full colour, full frame imports.

Admittedly the process can take a long time – especially big sections. For example to capture just four seconds, approximately 100 frames will be needed, requiring between 15 to 35 passes – and maybe more depending upon RAM, the access time of your hard disk, CPU speed and the chosen image quality – which can vary between full frame, hi or lo-res, colour or greyscale.

Obviously with such vast amounts of data storage can be a real problem, especially in the case of full-frame images which can reach half a meg each in the case of hi-res colour.

To speed up the grabbing process and in turn maximise storage, VLabY/C can make extensive use of its ARexx compatibility by adding scripts to the IFR which will grab directly into RAM and then automatically move the files to a predefined hard disk destination when RAM is full.

Better still, a selection of ARexx scripts can be easily tailored to your needs, thereby converting the stored 24-bit YUV data into the Amiga format of your choice.

FAST CPUs

Obviously with the vast storage and RAM required for full-screen playback, true digital video will only be available to those lucky few who have huge hard disks, buckets of RAM and blisteringly fast CPUs.

And even then, the only way to achieve respectable playback speed is convert the files into three bit plane DCTV animations. Even on an A4000/040 it's impossible to exploit the higher quality AGA modes at full screen without noticeable stuttering and unacceptably slow playback. However,

Instant 24-bit display

As existing users will be well aware, VLabY/C has always offered direct 24-bit display. However in the past this has been restricted solely to the Harlequin.

Now, however, the program's 24-bit repertoire has been expanded to include the impressive bargain basement Retina 24-bit board.

Thanks to the program's Output pull-down, the captured image can be displayed in a variety of ways, Harlequin and Retina included. Rather than saving the captured file and loading it back onto the display device later, they can be previewed directly in all their 24-bit beauty.

In the case of Retina, there's even the added bonus of support for the monitor window directly on the Retina.

ARexx capabilities

Like any self-respecting power product, VLabY/C boasts an impressive range of ARexx commands that cover all of the system's major functions, with perhaps the biggest impact being made by the ARexx control of the sequential and IFR grabbing options.

The software has a complete pull-down dedicated to ARexx macros, a number of which come as standard and can be appended to software as a permanent feature listed in the Macro pull-down menu.

My only complaint concerning the implementation of ARexx is the need for the user to edit scripts in order to define specific file formats and resolutions for converted images. Although not a difficult task, it would better if sequential file conversion was a little more intuitive.

➤

when these vast files are scaled, edited and processed with the assistance of programs such as ADPro or ImageFX, even mere mortals have the opportunity to help usher in a new era in Amiga animation.

Now the pseudo DVEs or digital video effects mentioned in this month's Updates column – courtesy of ProControl – seem less pseudo by the second, as animated animation can at last consist of "apparently" live video rather than standard Amiga anims.

Even more good news awaits the arrival of Airlink. As mentioned earlier, capturing a complete sequence can take quite a while, with the user acting a slave to the machine, waiting for prompts, rewinding and playing the tape time and again until all the frames are safely stored.

Fortunately there is a solution, in the form of the AirLink programmable infa red controller which can be connected to the Amiga and controlled by a selection of auto-rewind ARexx scripts that can be added to the IFR options.

Once in place, automation is complete with AirLink responding to the needs of the software, rewinding and playing the tape on request leaving the user free for other more productive endeavours.

Like the original VLab, VLabY/C comes on a hard card, offering two composite inputs plus a single Y/C. The lack of Y/C was the only real fault with the original and its inclusion on the new board should make it a "must have" for the enthusiast/professional who work ssolely in S-VHS and above.

As you can hopefully see from the screen shots, the quality offered by S-VHS is superb – although it's likely you'll find it difficult to tell between S-VHS and composite due to the massive reduction in scale necessary for printing. Nevertheless there is a very marked improvement, which in turn is reflected in the pictures – honest...

All three inputs can be toggled via the software, providing the ideal setup for the professional. In fact, you can have two cards in a single machine, offering six source machines all controlled by the software simultaneously.

Aside from pure grabbing power, the most important aspect of any system is its interface. In this area VLabY/C performs extremely well. The program can appear in two forms, either as a full screen interface – in the screen mode of your choice – or as a dormant pull-down menu on the Workbench.

Once activated, the first job is to open the monitor which appears as a small, independent Workbench window or PIP, housing a constantly updating display of the incoming video signal. The window can appear in anything from four to 16 levels of greyscale, in either interlace or med-res.

The beauty of the window system is that when in Menu Bar mode the window sits quietly alongside the assorted Workbench clutter, happily displaying the signal. When an appropriate grab appears, a simple click on a small accompanying control window instantly captures the image.

> *It's hard to argue with an ADPro and VLab Y/C combination*

Actually capturing images is literally that simple – you merely sit back watching your miniature TV, patiently waiting for the optimum moment to click on the control panel.

As many a videophile will be all too aware, interlace flicker can be a problem with any frame grabbing system – especially when grabbing fast moving images. In the case of VLabY/C the problem is still there, although to a lesser extent than most.

Nevertheless, interlace flicker can still be a problem – more so in a Y/C rather than composite grab as importation takes longer due to the additional information in the Y/C signal. However, if the unthinkable happens and you capture a flickery but nevertheless impressive image, a de-interlace option can be applied to remove the offending field – instantly transforming a migraine-inducing grab into a perfect if slightly lower quality picture.

Once grabbed, the captive image can be converted into any standard or AGA colour and resolution combination – either with or without Floyd Steinburg dithering – the only exceptions being HAM and Ham8 which for some reason do not support dithering within VLabY/C. The importation process can also have a variety of filters applied to produce the optimum image.



A display device is handy, but full screen back drops and live on-screen monitoring still do a good job

GRABBING

Although static and IFR movies are impressive, they're not the limit of the system's capabilities. With the assistance of the pull-downs, you can access the programs sequential grabbing option which allows you to grab a maximum of 9,999 frames from a live video source with the time delay of your choice.

Thanks to the sequential option stop frame and time lapse animation is just as easy as making IFR movies or grabbing single frames.

If there's a chink in VLabY/C's armour, it's the program's love of copious amounts of memory and acceleration – especially during sequential or IFR grabbing. Even on an A4000/40 there was a significant slowing of additional software – despite the program's image buffers being clear.

To be fair, the program itself performs faultlessly, but I'd say it's not a particularly good idea to employ the VLabY/C in the midst of a busy multitasking environment.

VLabY/C is to the best of my knowledge the only serious application to employ the impressive YUV file format. All captured images are stored in it and then converted to a particular display medium, whether that be 24-bit or two-colour bitmap – the choice is yours.

The beauty of YUV is primarily its size, with the average file being one-third that of an identical 24-bit IFF, and they still retain all the relevant colour data. The only problem – as with any proprietary format – is its incompatibility with existing software.

To combat this, VLabY/C can also save out a standard Amiga/24-bit IFF in addition to any AGA or standard Amiga file format.

However the image must be converted, either internally or processed after saving with the sequence to Amiga ARexx script provided. As you've probably guessed, I'm as impressed with the combination of hardware and software as I'm sure you are with the images it provides.



"Listen Maxie, I'm tellin' ye, this one's the Y/C, it's the other that's composite"



Alright Barry, calm down, calm down...

VLabY/C appears to be the system that the professionals have been waiting for. With support for the YUV file format and a dedicated VLabY/C loader for ADPro provided as part of the support software, it's fairly clear where MicroSystem's see your creations ending up.

To be honest, it's hard to argue with an ADPro and VLabY/C combination. With both packages working in harmony, DVEs are a breeze, with ADPro's Sentry program automatically picking up the files from VLabY/C, passing them on to ProControl for processing into a DVE effect, while AirLink controls the transport of the VCR.

All you have to do is set up the software, play the tape and put the kettle on. It's that simple...

AC

SYSTEM ESSENTIALS

RED = Essential YELLOW = Recommended

Zorro required — Hard drive — 3 Mb RAM — v2 Workbench — VCR — Normal monitor — 4 Mb RAM — Display device

The bottom line

Ease of use = 10
Implementation = 8
Value for money = 10
Overall = 9

Product: VLabY/C
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Price: £382

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D271..Timex Hydra
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D276..Cave La Weird
D279..Iraqui Demo
D280/281..Delerious (2)
D290..Popeye Demo
D292..Excalibur Demo
D298..Silents+Anarchy
D301..Subway Demo
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D315..The Groove Ramjam
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D325/326..Real Empathy(2)
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G89...Snake Pit
G90...Zeus
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G102...Card Games 2
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G111...Marble Slide
G112...Games Comp 10
G113...Black Jack Lab
G114...Dungeon Of Madroj
G115...Amiga Columns
G116...Robocop In Iraq
G117...Mutant Camels
G118...Games Comp 11
G119...Number Fumbler
G120-122...Warlock (3)
G123...Card Sharp 1
G124...Bart Simpson
G125...CC Games Comp
G126...Air Ace 2
G127...Breakout Con Kit
G128...Pipeline
G129...Dung Of Doridian
G132...Peters Quest
G133...Star Trek 3
G134...Piperider
G139...Door To Door
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G145...Mission X Raid 3
G146...Trek 73
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G148...Squats Revenge
G149...Sky Fight
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G151...Airmania
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G154...Totally Frantic Quiz
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G161...E-Type
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G163...Sea Lance
G164...Dizzy Diamonds
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G166...Word Square Solver
G167...Cross Fire
G168...Wastelands
G170...Space Blitz
G171...Crazy Sue
G172...Make A Break
G173...Squamble
G174...F-1 Challenge
G175...Othello
G178...Evil Dead Game
G179...Trainset
G180-181...P Comps 1+2
G182...Diplomacy
G183...Tractor Beam
G184...Motor Duel
G185...Game Boy Tetris 2
G186...Water Works
G187...Act Of War
G188...Mutants Games
G189-193...Timelords 1-5
G194...Nirvana
G195-196...Neighbours (2)
G197...Ameoba Invaders
G198...Game Boy Tetris 1
G199...Tetren
G200...Battlecars 2
G201...Dr Mario
G204...Ashido
G205...Cheats Disk 2
G206...Cheats Disk 3
G207...Next Generation
G208...Airport
G209...F.R.A.C.
G210...The Golden Fleece
G211...Legend of Lothian
G212-214...Timelords 6-8
G215...Amos Games 1

SLIDES

S1...Ham Pics Show 1
S4...Madonna slides
S5...Moviestar slides
S6...Party Disaster
S8...Immaculate Collection
S9...Simpsons Slides
S10-11...Channel 42 (2)
S12...Bruce Lee Slides
S14...Adams Family
S15...Viz Mag Slides
S16...Boris 13
S17...Docklands Jarre
S18...Dr Who Demo
S19...Napalm Death
S20...Nasa Slides
S21...Exodus 3D Slides
S22-24...WWF Slides (3)
S26...Cascade Demo
S27...Demons Slides
S28...Total Recall
S29...Joe's Slides
S30...Ham Pics Show 2
S31...D-Paint Slides
S32...Neighbours Slides
S33...Roger Dean slides
S34...Iron Maiden Slides
S35-36...Tobias Richter (2)
S37...Joe Trsi Slides
S38...Basket case 2
S39...Eces Slides
S40...Fraxion Devine 2
S41...Fraxion Devine 1
S42...Golems Gate Slides
S43...Chainsaw Slippers
S44...Cry For Dawn
S45...Forgotton Realms (2)
S47...Kick Off 3 Slides
S48...PD Slideshow
S49-52...Terminator (4)
S53...Robocop 2 Slides
S54...Trackmaster Slides
S55...Forgotton Realms 2
S56...Garfield Slides
S57...Pawnbroker Slides
S58...Hellraiser Slides
S59...Night Breed Slides
S60...Raytracing
S61...Horror Slides
S63...Tate Gallery 2
S64...Rock Star Manager
S65...Images Slides
S70...Muscle Mania
S71...Creature Comforts
S72...The Wonder Years
S73...Watership Down
S75...Ferrari 348 Pics
S76...Belinda Carlisle
S77...Cher Slides
S79...Freddies Dead
S80...Wendy James Slides
S81...The Invisible World
S82-83...Terminator 2 (2)
S84...Fantasy Pics
S85...Gulf War Slides
S86...Magical Pics
S88...Gulf War Tribute
S89-90...S/Thing Fishy (2)
S91...Eldorado Slides

ANIMS

A1...Probe Sequence
A2...Ghost Pool
A3...Jogger + Magician 1
A4...Gymnast Demo
A5...Fractal Flight
A6...Basketball Demo
A8...Walker Demo
A9...Magician 2
A10...Pugs In Space
A11...Luxor Teenager
A13...Juggler Demo
A16...Cool Cougar
A17...Mono Cycle Anim
A18...Robocop Anim
A20...Mayhem On Wheels
A21...Jugette 2
A22...Shuttlecock Anim
A23...T-Pot Anim
A27...Fleet Manouvre
A28...Billiard Anim
A29...E/Prise Leaves Dock
A30...Starwars 2 Anim
A31...Star Trek Anim
A32...Fraxion revenge
A34...Madonna Anim
A35...Stealthy Anims 2
A36...Raiders Of The L/Ark
A37...Bugs Bunny Show
A38...Iraq V's UK Anim
A39...Mike Tyson anim
A40...Knight Anim
A42...Walker 2
A43...Walker 3
A45-46...Light Cycle (2)
A47...Exploding Head
A48...Police Car Chase
A49...Top Gun Demo
A50...Animators Demo
A51...5 Ways To Kill a Mole
A52...Another 5 Ways
A53...Batman The movie
A54...3D Spaceship
A55...Mr Potato Head
A57...Camouflage
A58...VGA Anim 4
A59...Low Level Flight
A63...Amy V's Walker
A64...Real Pinball Anim
A65...Franklin The Fly
A66...Porky Pig Anim
A67...Adventures Of Chuck
A69...Bunsen Burner
A70-71...Max Overdrive (2)
A73...Spaceshuttle Anim
A74...Ghostbusters + Horse
A76...Alarm Anim
A77...Flight Anim
A78...Piano Anim
A79...Dart Anim
A80...Bad Bird Anim
A81...Holiday Anim
A82...Fillet The Fish
A83...The Boings
A84...Clothes Peg
A85...Miners Anim
A86...Pocket Watch Anim
A90-93...The Movies 2 (4)
A95...My TinToy
A96...T-Pot 2 Anim
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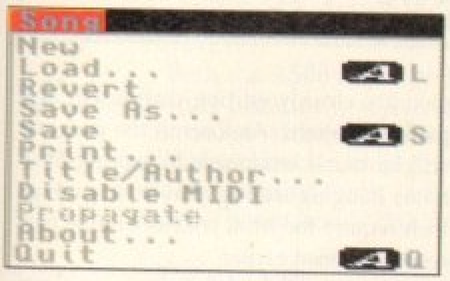
Tool talk

As promised, *AC* concludes its tutorial to Bars&PipesJr with an in-depth look at pull-down menus and that all-important tour of the tools

Working from the top down, the obvious place to start has to be the pull-down menus. Simply hold down the right mouse button and move to the top of the screen, highlighting the Song pull-down.

With the huge range of options – some of which are disabled – it's only possible to cover the high points, and in the case of the Song menu one of the real shining stars has to be the Revert option.

In a nutshell, it simply allows you to



automatically re-load the original version of the song already loaded – particularly useful if things have gone rather astray since the last save.

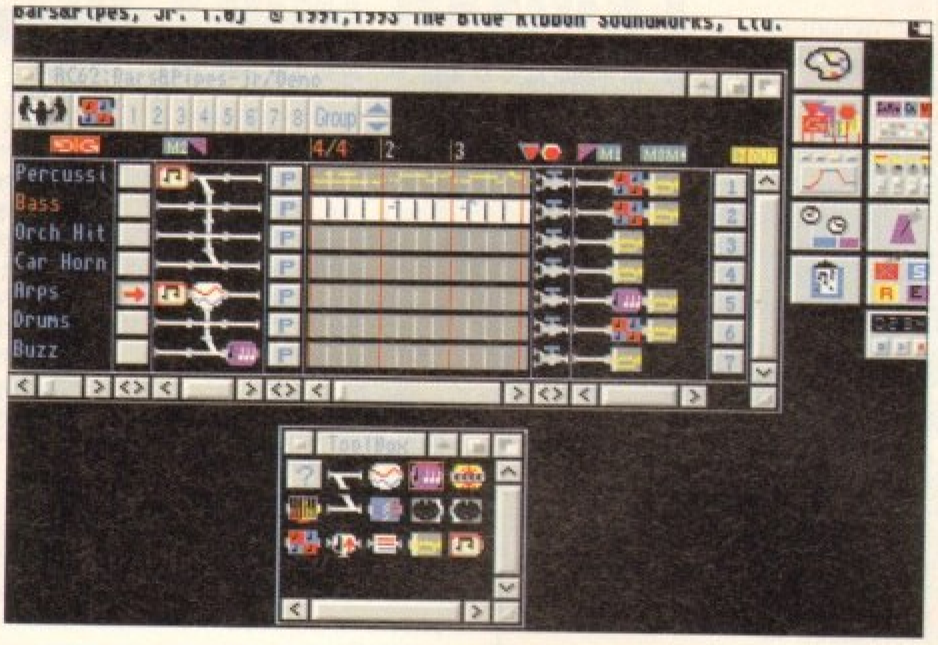
At little lower down you'll see an option which toggles between enable and disable Midi. For those using internal sounds it's rather redundant but for anyone employing Midi equipment it can be invaluable.

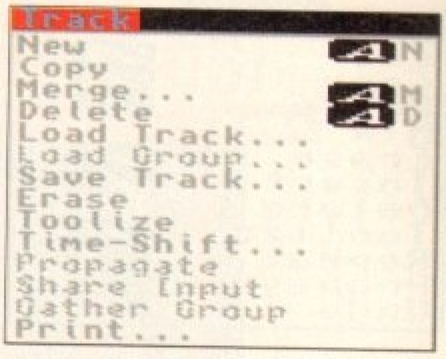
If for some reason your synth or module decides to hang up leaving a note dangling indefinitely, you can use the option to terminate the Midi link thereby sending a Midi Off to all the equipment connected to the system. If you then toggle the option back to Enable Midi the link is restored and the glitch removed.

Moving on to the track pull-down, the highlights include Time-shift and Toolise, the first of which allows you to move any track or group of tracks either forward or back in time. This may sound a rather strange concept but in practice it means that either subtle or dramatic adjustments can be made to the relative timing of the various tracks. A perfect example of its power is the ability to easily adjust for the variation in attack between different voices.

For example a track may feature a piano voice. If this is then swapped for a choir, the timing could well sound very off-beat due to the difference in attack between the two.

As a result, time-shift can save a lot of heartache and re-recording by simply allowing you to compensate by moving the entire track either forward or back





until the new voice fits perfectly. Toolise is yet another time saver. By applying the option, whatever tool is present in the Toolise window – next to solo in the group panel – will be applied to the selected track while ignoring the others.

When used with the program's Quantise tool hours of re-recording can be avoided while tools such as echo produce effects which would take hours to add manually.

Moving on to the edit pull-down we enter the world of multitrack handling as opposed to the individual track editing supported by the previous pull-down. It's from here where the edit techniques learned in last month's tour of the flags can be applied.

As mentioned, all of the functions in this pull-down work on all tracks and rely heavily on the edit markers for their application – twin purple triangles used to sandwich a section of the sequence for

➤

A tour of the tools

As mentioned earlier, the assorted tools aren't simply a collection of click and drop icons, and in fact there's an entire pull-down dedicated to advanced application of these miniature miracle workers.

Some of you may have already spotted that at least some of the tools don't directly modify sound. In fact the sharing of either incoming or outgoing information can often lead to even more dramatic results than just tools alone.

If you open the tool window you'll spot a couple of the most important of these non-modifiers in the form of the merge and branch tools – each resembling a small section of pipe complete with a miniature branch protruding from the side.

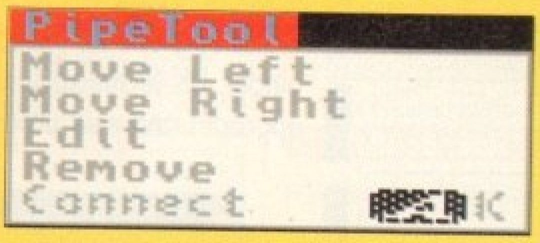
Although rather bland, the aforesaid duet are arguably the most important tools in the entire collection. To use either of the two you simply drop them in the pipeline but unlike the majority of their counterparts they're only useful when combined with others.

If you take a close look at the remaining tools you'll notice that transpose, key split and counterpoint all offer an extra connection point at the bottom. As you've probably guessed this allows direct connection to a merge tool on another track.

Once connected the new connection will automatically filter off the new data generated by the chosen effect – instantly passing it directly to your chosen track. Although probably the most dramatic trick it doesn't mean that the rest are redundant. In fact merge and branch connection can be made to the pipeline directly – avoiding tri-connecting completely. To actually join two pipelines simply drop a branch tool in one pipeline and a merge in another – they can be alongside or separated by several tracks, the choice is yours. Once each tool is safely entrenched, select one of them and move to the Pipetool pull-down.

Now highlight and release the connect option, move to the second tool and click once. At this point a branching pipe should join the two. If they're alongside the connection may not be obvious – however it will have been made.

If you now select either a Midi or internal sound source – following the usual set-up procedure for each track – playing the instrument/sound assigned to the track containing the branch tool should produce identical playback on both, but with the second track using a different voice.



If this output is then further processed by another tool in either the input or output of the track, startling effects can be produced. However internal sound users should be careful as multiple effects can eat all four channels very quickly.

Now before you go mad adding tools, a quick lesson in tool management might be in order. As you may have already discovered, getting a tools into the correct order can be an essential and sometimes tricky business.

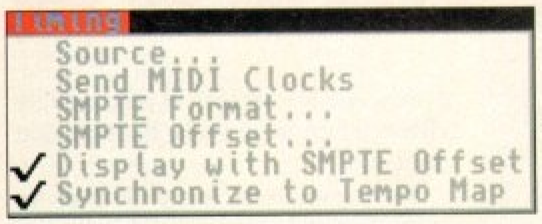
To achieve proper positioning you can either use the pull-down options or alternatively their keyboard equivalents. In the case of keyboard control simply highlight the tool and use the arrow keys move it left or right, to the Del key to delete and Amiga–K to make connections.



editing. When the aforementioned flags are in position, it's from this pull down that the edits are applied – whether they be simple cut and paste, multitrack toolising or even multiple insertions courtesy of the pull-down's repeat option.

To save confusion we'll look at the Pipetool pull-down in the tools section and for the moment move on to the Timing menu which as you may have already discovered holds a rather daunting array of options.

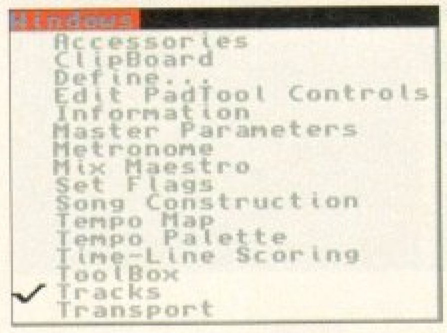
For the vast majority of users it would be wise to leave the various settings in



their default state as SMPTE and Midi timecode options are only of use to those with dedicated Midi or videographic hardware which can either send or receive the chosen timecode information.

Moving on, we arrive at the penultimate Windows pull-down which as the name suggests provides alternative access to the various control windows.

Personally I don't find double clicking



on a window icon a particular hardship, but if you prefer the pull-down approach here's where it can be applied. Finally we've arrived at the preferences pull-down which allows you to customise the B&Pjr environment to your own particular taste. Notable options include Align With... which provides the user with the option to define how the flags will snap into position during editing.

By varying the options you can define whether flags will jump to complete measures or individual beats within those measures. Although there is a third option to snap to anywhere you'd be well advised to avoid it as it's easy to make mistakes by accidentally removing or copying over information.

In addition it's dangerously simple to knock your complete composition out of time by pasting or recording at the wrong point.

Much of the remaining options deal primarily with aesthetics and as a result it's very much a case of personal preference combined with available memory. If you're lucky enough to own a machine with extra memory, feel free to experiment with the various display modes.

In addition, those with extra RAM should always enable the Undo option in the memory savers – this can save a lot of time in constant re-loading – whether it be through the Revert option or via the load requester.

Alongside display variations there's also one very useful option entitled Clean cuts. When active it simple means that notes which hang over from one bar to the



next are cleanly editing during cut and paste operations. As a result the program will be much less prone to leaving Midi notes hanging during playback – which then require the Midi enable/disable process mentioned earlier.

Unfortunately hanging notes can never be totally eradicated thanks to a bug in Midi, but at least with the assistance of clean cuts their occurrence can be kept to a minimum.

Alas that's all that space will allow. We hope you've enjoyed, and will continue to enjoy our amazing giveaway in the future. If you have any burning questions concerning B&PJr don't hesitate to write to ACAS and we'll do our best to put your sequencing problems to the sword.

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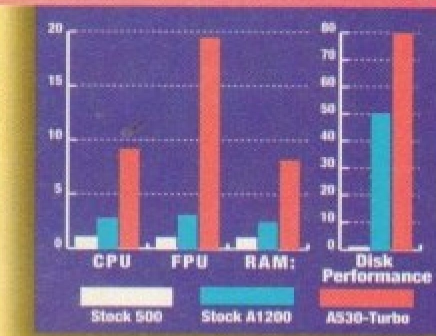
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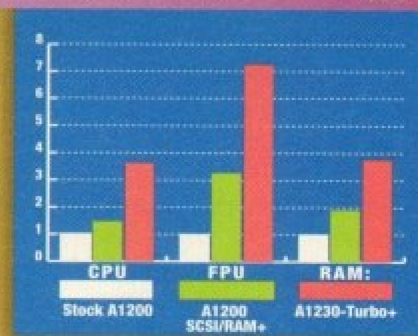
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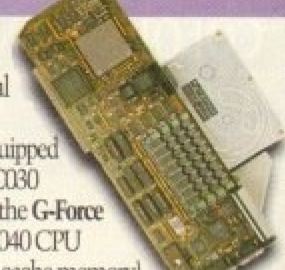


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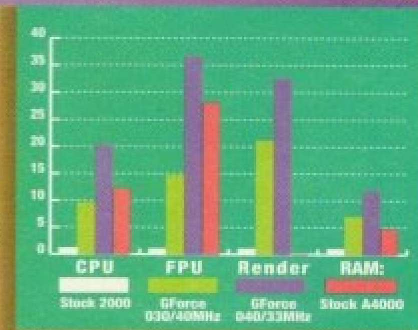
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Business on a shoestring

Stay fit and lean in business with a selection of software designed to boost your prospects without denting your wallet. Phil Morse keeps the overheads low...

A record number of small businesses have gone down in the last 18 months, and nobody denies that times have been extremely difficult. Yet many could have survived had they kept customer satisfaction and loyalty a little higher and overheads lower – and kept a tight and informed rein on the purse-strings at the same time.

In owning an Amiga, you have a tool powerful enough to help you immensely in all of these areas. Whether it's sorting customer information or visiting the bank manager, a computer can clue you up and keep you on top at all times. And all of the software listed is either free or shareware – no £300 all-singing, all-dancing, business-breaking packages here.

But first, your equipment. Let's say you own an Amiga 500, 600 or 1200. Chances are you've already got a hard drive. If you haven't , it would be well worth your while considering one.

You can get away with floppies when you're predominantly playing games, but when a number of programs are involved and you wish to swap and change between them, it becomes tediously unproductive having to keep changing disks.

The bigger the better, but for £160-odd, A600/1200 owners can get a slick 60Mb hard drive that fits inside the machine. Nice...

A monitor is better than a TV due to its picture quality (less strain on the eyes thanks to much improved clarity and a stiller image). One cost-cutting tip, though, is to see if your video and/or TV have Scart sockets.

CLARITY

These allow the direct inputting of things such as computer information, so all you may need is a lead in order to watch the computer, monitor-quality, through any TV.

Finally, a printer is an essential purchase. For the small business nowadays, an inkjet is really the only choice. With output scarcely inferior to laser printer material, it will serve nicely churning out letters, flyers, instruction manuals, business cards...

From scratch and brand new this lot – including the software about to be reviewed – will cost you around £700. This is an incredibly low price for the productivity available to you, and you get a state-of-the-art computer too.

The golden rule of small business is "keep your overheads low" – working at home on a computer you may even already own is the epitome of this philosophy.

People who realise this, and realise that to stay afloat, customer relations must be firmly balanced with behind-the-scenes prowess, are much more likely to survive than the happy-go-luckies. The choice is yours, but the free and cheap software is waiting...

Text Engine v4.0

17 Bit, 1541

A wordprocessor is pretty much an essential purchase. Business letters must be neat, concise and well written, and a wordprocessor will aid your chances of achieving these objectives considerably.

Basically a typewriter on-screen, a good wordprocessor will allow you to type out a document, set the page out how you feel it should go, run a spelling checker across it to highlight typing and spelling errors, choose a typeface and print the whole ball game out.

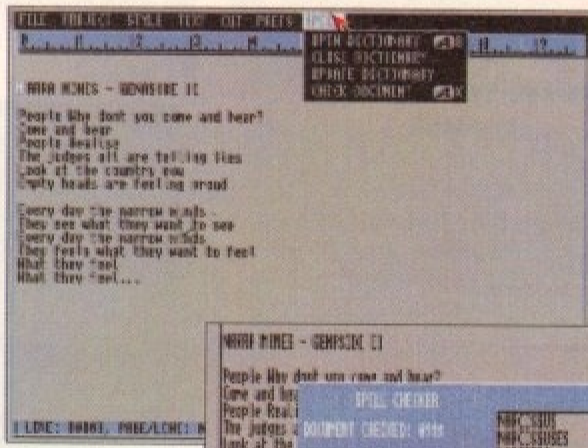
The beauty is that you can generate draft after draft, giving you the chance to get that all-important subtle wording exactly how you feel it should be, without rewriting the whole thing every time as would have been the case if the work were simply typed.

When I last saw Text Engine it was a very basic wordprocessor, resembling a stripped-down Protext. With v4 it has gained 3D appearance, more statistics regarding your document on permanent display across the bottom of the screen, and a few newer features.

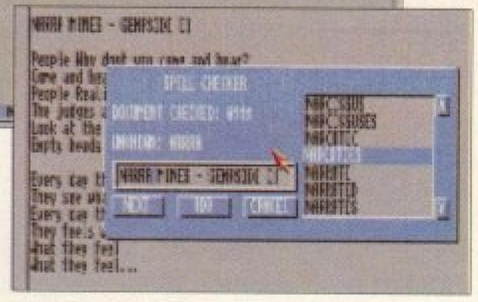
While some wordprocessors offer a pile of complex options, Text Engine's strength is in its speed – a functional bias, and one which will appeal to the overworked.

The features you do get ensure that all the important bases are covered. It is possible to load and save Ascii (great for transferring files to and from other wordprocessors), run the program on an interlaced monitor for higher resolution should you be lucky enough to have one, choose between a number of typefaces (and 13 different variants upon each face); there's even a palette so should the Workbench 2-style screen be not to your taste you can tweak the colours it uses.

A big improvement on earlier versions, Text Engine v4.0 represents tremendous value for the business person requiring a reliable and unflashy workhorse.



Text Engine is a basic, no-nonsense, great value wordprocessor



Even Text Engine's dictionary struggles with non-standard words

Invoice Master v2

CLU 21

A professional stab at the handling of invoices, this program proves its serious intent right from the off by offering a special program to run first, which asks you questions and ascertains information on your business for incorporation into the main program.

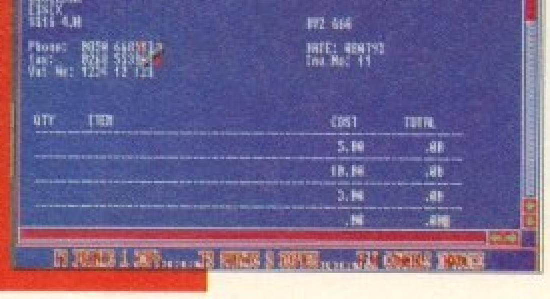
Invoice Master keeps a data file on disk, and so always "knows" where you're up to – you don't start it blind every time you boot it up.

As far as actual invoice creation goes, Invoice Master literally guides you through the process, making it a truly painless one. First you are asked to confirm the invoice number and enter the name of the customer to be invoiced, along with his or her address.

Then you enter the quantity, price and description of the goods and services on offer, to which the computer will add (rate-variable) VAT and postage and packing if relevant, until the invoice is complete.

The option is available to print it out once, twice or any number of times. Being able to select "twice" is a good idea – unless you're a dab-hand at feeding two sheets of foolscap and some carbon paper into a printer in order to keep a copy of the invoice for yourself.

It would have been nice to have a small database of customer name and addresses to save the typing fingers, but as the author admits, for £3.50 this is simple, functional and friendly. Recommended.



Bill your debtors the efficient way with Invoice Master

EasyCalc

Roberta Smith, BU108

A spreadsheet such as EasyCalc allows you to enter a set of data and process it to provide you with more meaningful information, only this time concerning numbers.

It can take a lot of the bread-and-butter number-crunching work out of sorting out your accounts and, more importantly, making predictions for your balance in the months ahead.

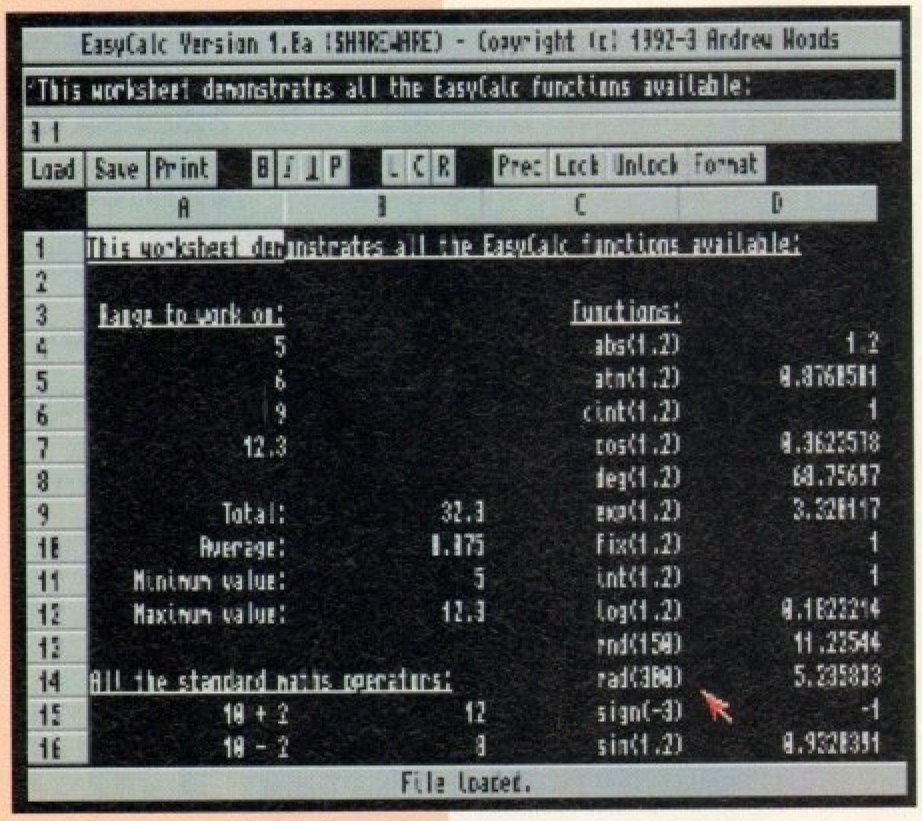
For example, you could have a financial year (April to March) set up across the top of the spreadsheet and details of bank income and expenditure down the side. Should car tax rise, changing the appropriate number in your yearly financial plan will have a "knock on" effect, adjusting all the other numbers accordingly. Try doing that on paper!

This spreadsheet claims to be fast, easy to use and to contain all of the basics (ie the features you're deemed likely to find yourself using every day) but without superfluous extras.

The author claims that he wrote EasyCalc because no other PD spreadsheet reached his expectations, and it must be said that in the claimed areas of functionality and ease of use, EasyCalc does indeed shine.

If you're planning on mastering a large-scale, multi-scenarioed financial/strategic projection of some importance, you'll find it too primitive.

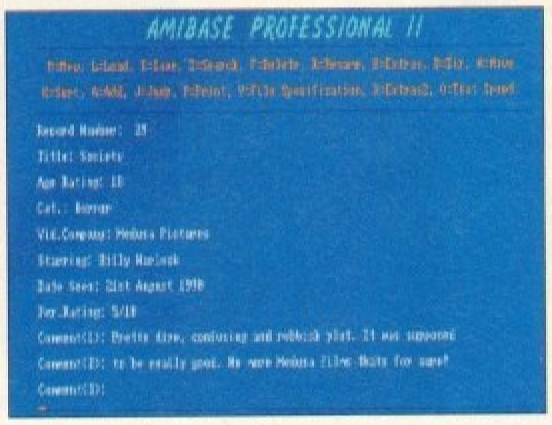
But if you have a rather more mundane set of predictions ("how much money will have left by the end of the month?" being a perennial) then you'll find EasyCalc both cheap and competent.



EasyCalc is a powerful spreadsheet at an absolute bargain price

Amibase Pro 2

17 Bit, 1654



Amibase Pro 2 is clear, simple and undaunting in its presesentation

What is a "database", and why should one be important to the small business? Well, information is one thing which can put you out of business or ahead of the field, depending upon the quality and relevance of the information you possess regarding your customers and their needs, and the ability with which you can process and thus make positive use of such information.

Basically an electronic card index, a database can store a number of pieces of information on each "card". Once entered, the information can be manipulated in all sorts of ways – you can search through all of your "cards" for certain words (enter a specific town and it could tell you all of your customers in that area, for instance) or characteristics (say, all men over 35 on your books, should you be trying to sell a hair restoring compound!).

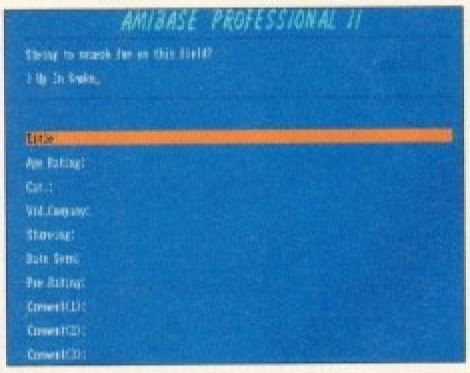
How you set up and use your database will vary depending upon the nature of your business and the information available to you, but whatever road you take, a database makes the updating of information easy and snowballs its value by allowing you to carry out a whole heap of processes with it which would be at best time-consuming and at worse impossible by hand.

A well-presented list of keyboard commands adorn the top of Amibase's screen. The mouse is utterly redundant – it may steepen the learning curve, but as users become more experienced at using programs, they tend to migrate towards the keyboard short-cuts anyway.

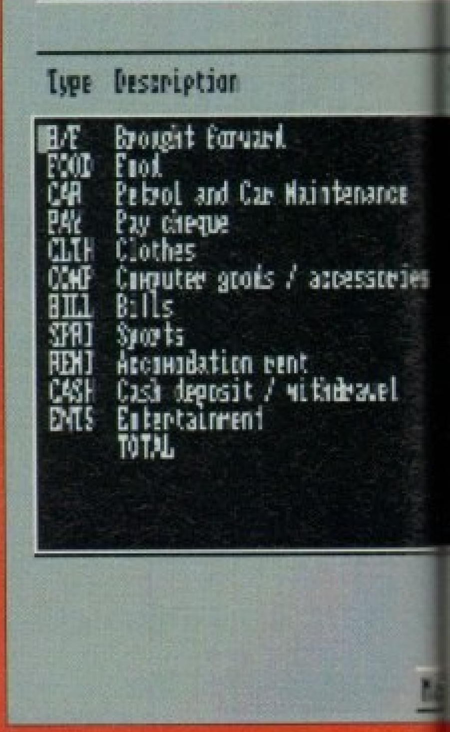
The program allows a respectable ten "fields" per entry. This means that for every item in the database, you can have ten parameters. So if I was keeping a track of my record shop's stocks, I could specify the artist, title, producer, format, genre, label and year of every record in the database, and still have room for three more entries per item!

Amibase Pro 2 has a full array of data manipulation commands – apart from the usual add and delete there are search options such as move, sort and jump, and a full printing set-up.

Should you feel that you have any list of information which would benefit from being computerised (after all, information is nothing if you're not able to fully understand what it's telling you), AmiBase Pro 2 is an extremely stable and honest workhorse.



Searching for a particular entry in Amibase Pro 2



Any corner shop could benefit greatly from this system

Stock Controller

CLU14

Similar in appearance to Invoice Master, this is an attractive and useful program which would be a real boon to any business with a stock control problem.

From corner shops to service stations, stock control has always been as boring as it is necessary.

Many breweries, for instance, have realised the benefit of tight stock control (look at the itemised complexity of the till next time you're in a pub), and with programs such as this one, you can have the chance too.

Business Card Maker

17 Bit, 1546 • *Not A1200 compatible*

This large and involved program is basically an extremely simple customised DTP package designed to help you create and print business cards.

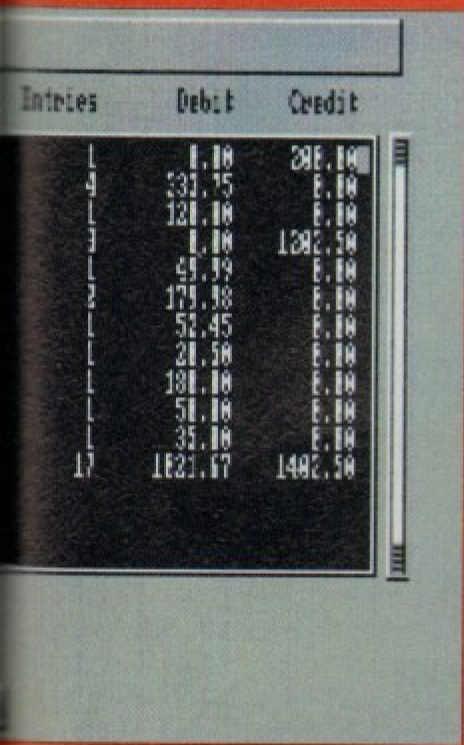
Which isn't a bad idea as soon as you look at the cost of having cards designed and made professionally! With Business Card Maker the user can design a logo, choose the right lettering and work on the layout without the worry of paying a professional print bureau for the design time.

Although it can sometimes appear a little tedious in use (user friendliness wasn't what it is now when this program was written way back in 1987) it is nevertheless highly useful.

Your first stop is the options screen, which allows you to choose one of seven supplied printer drivers, or your own if you have one. An involved screen permits full editing of printer codes and the ability to save such information once defined – never again will the computer's "italic" be misread by the printer as "bold strike-through", or something equally irrelevant.

The main screen contains a rectangular representation of a blank business card. Selecting Make Icon from the menus (if you have an icon already made which you wish to use, you can load one from disk) brings up a mini DPaint-style screen, with a small work area for designing your icon and some basic circle, line and fill-style tools.

Once an icon has been chosen and positioned, the user decides upon the



The user enters the product's name, stock code, price and up to two suppliers for it. There is the ability to run searches and find out how many items are in stock ,whether an item requires re-ordering... all you would expect.

Most parameters are variable; you can specify what level the stocks of a product drop to before re-ordering is necessary, and you can add stock codes to your descriptions and quantities – to tie in with codes on the till roll, for instance.

With a program like this running by the cash till, or updated at the end of every shift, professional-style stock control and all the benefits which that reaps for your customers and so pocket, can be yours.

' No small business can afford to turn its nose up at a lucrative sideline... '

Who to contact...

17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield WF1 1DH

Roberta Smith PD, 190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE

• Central Licenceware Register disks (those marked CLU in the text) are available from many libraries including 17 Bit and the following:

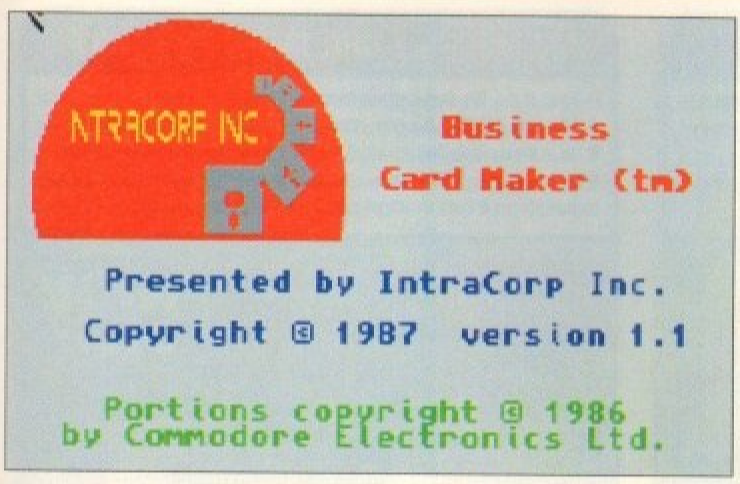
Blitterchips, Cliffe House, Primrose Street, Keighley BD21 4NB

Deltrax PD, 36 Bodelwyddan Ave, Old Colwyn LL29 9NP

NBS, 1 Chain Lane, Newport PO30 5QA

Vally PD, PO Box 15, Peterlee, Co Durham SR8 1NZ

Virus Free PD, 31 Faringdon Road, Swindon, Wiltshire



Create your own business cards with this novel utility

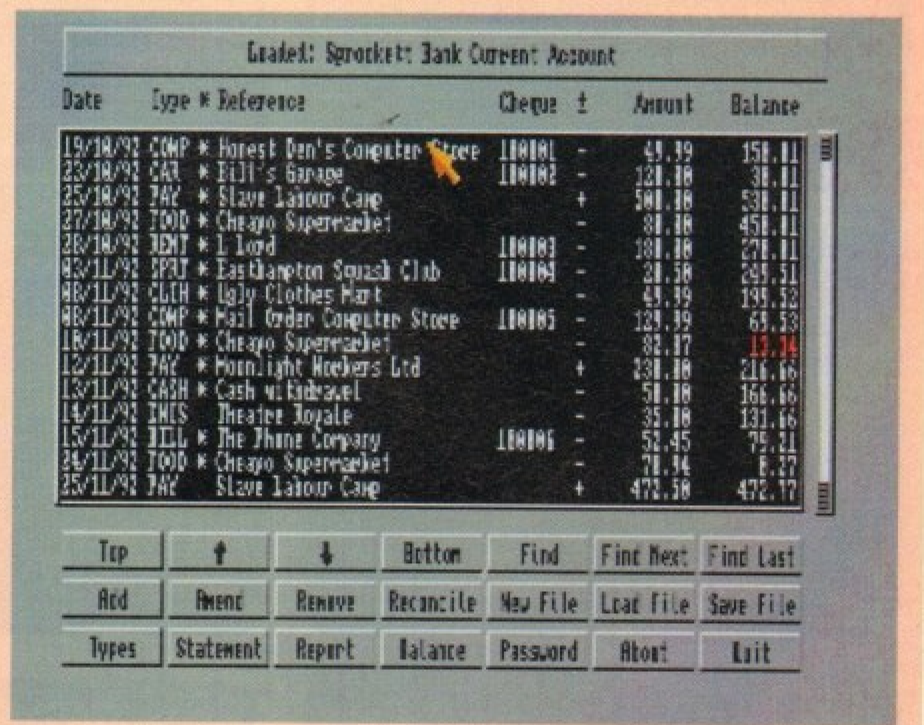
typeface(s) to be used, prepares the text and places it onto the card exactly where required.

Finished cards can be printed two-across onto good quality A4 paper or card, cut out with a guillotine or knife, and suddenly you've got business cards at a real fraction of the cost.

Of course, you could take the whole thing a stage further... instead of making just your own cards, why not offer a service to others? No small business can afford to turn its nose up at a lucrative sideline...

Power Accounts

CLU10/1Mb req'd



Keep a detailed tab on your "liquid" assets with Power Accounts

While a spreadsheet can take care of predictions and "what if?" scenarios, a program such as Power Accounts can really simplify and help the small business person to keep on top of the day-to-day cashflow situation.

One of the hardest things to do with a domestic bank account, let alone a business one, is reconcile your statements with what you reckon you've spend and received. Luckily, Power Accounts has been designed to make this, and other bank account management tasks, much easier.

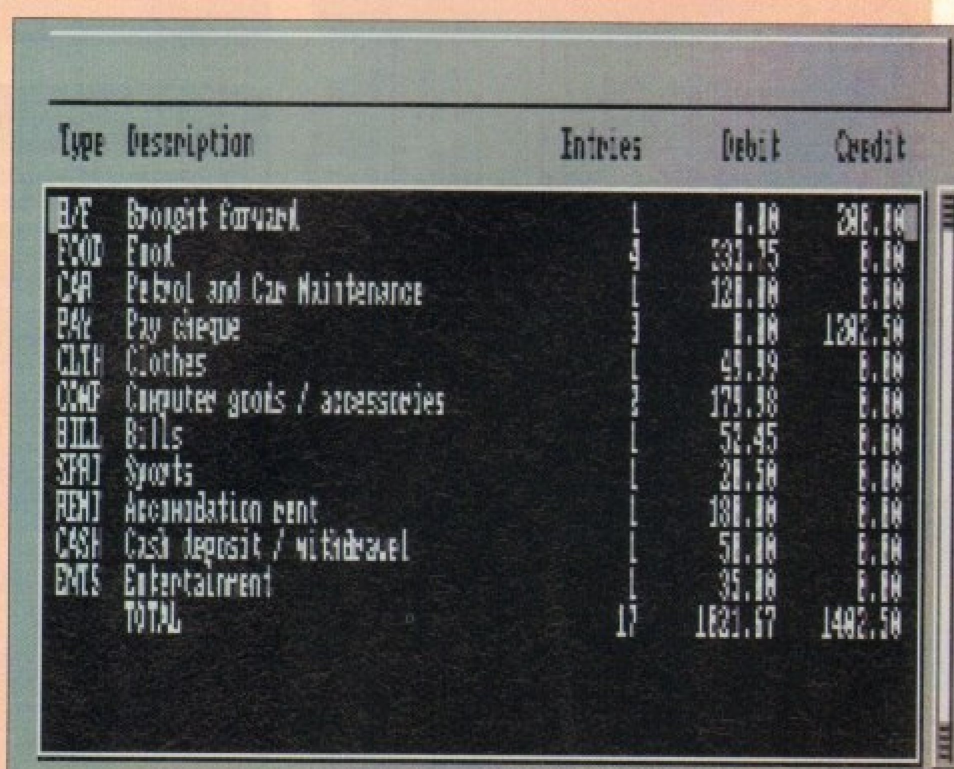
Boasting clear and friendly work screens, the use of different transaction types for clarity, the ability to generate account statements and income/expenditure reports, and full encryption to stop the wrong eyes from finding out all such information, and you have a program of genuine use.

And from the excellent hard drive installer program to the tidy icons and well-written ReadMe, the program gives a really professional feel which inspires confidence.

Basically suited to a personal or small business account, Power Accounts allows easy entry of transactions as and when they occur.

When a statement arrives you can tell Power Accounts which items are listed and it will adjust itself and its information accordingly.

This is a fast, functional program which would benefit greatly any small business without a similar set-up.



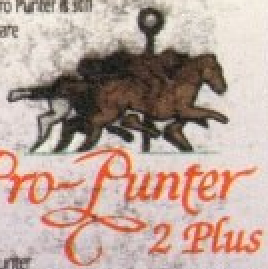
This bit only works if you're truthful about what you spent your money on...

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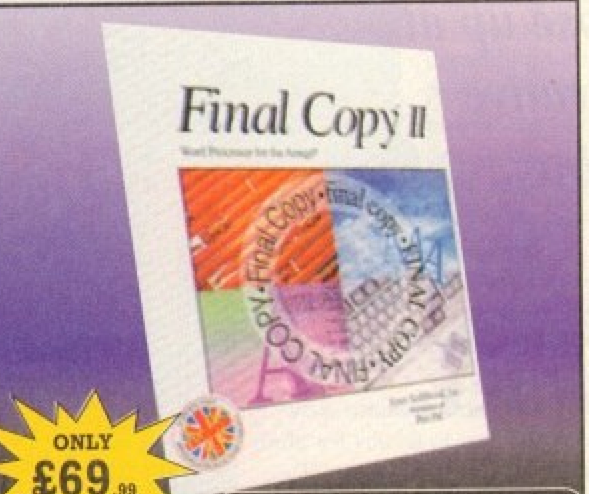
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Product	Price	Order No.
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FINAL COPY II

Final Copy II is not only the Amiga's most powerful word processor with every feature you would expect, plus many more normally found in DTP packages, but it also gives superb scalable outline fonts with any Amiga, even at your printer's highest resolution, with almost PostScript laser perfection – no matter what printer you may have. It includes a 110,000 word British-English Collins proximity spell checker, along with an 826,000 synonym Thesaurus. It is also easy to learn and to use.



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The scanning package comes with the excellent Touch Up and Merge It packages and the AlfaData scanning rule. By using the Merge It software you can scan A4 pages in several passes and paste all the scans together.

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X-COPY PROFESSIONAL caters for all your needs. Included in the package is a small hardware interface that plugs into the external disk drive port at rear of the Amiga and your external disk drive (if you have one) plugs into the back of the interface. This allows the Digital Bit Image Copy Mode to use the Adaptive Pulse Width Modulation routines to backup virtually all known discs.

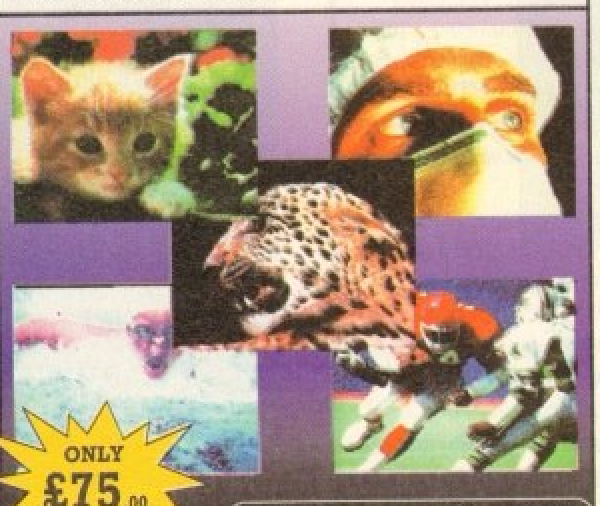
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The ultimate low-cost colour digitiser for the Amiga! No RGB splitters or optical filters are required, and you can grab full-colour images in less than a second (mono are grabbed in real time). With an abundance of file formats, full multitasking and composite or S-video output, it's versatile and powerful.



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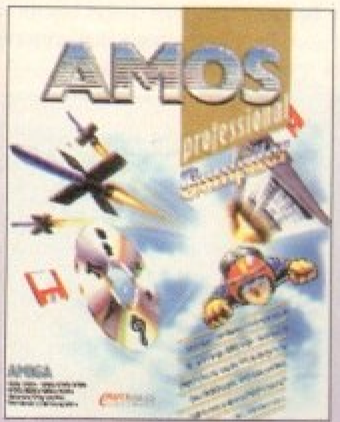
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WorkStation 2 has been designed specifically for the new breed of Amigas with the express purpose of simplifying the computing process while providing all the computing tools you'll ever need.
This indispensable collection of utilities includes the very latest and best shareware compiled within a smooth and simple user friendly interface. No more CLI or Shell, a simple point and click is all you'll ever need...

This is just a small selection of the tools and utilities on offer. Others include ScreenX and GFXMem.

For the artists out there Icon Edit awaits to produce customised icons, while NickPrefs adds the option for a 16 colour designer backdrop, animated pointers and non clicking floppies. Screen blanker provides a tailor made designer look to your system and transforms the appearance of your Workbench screen forever.

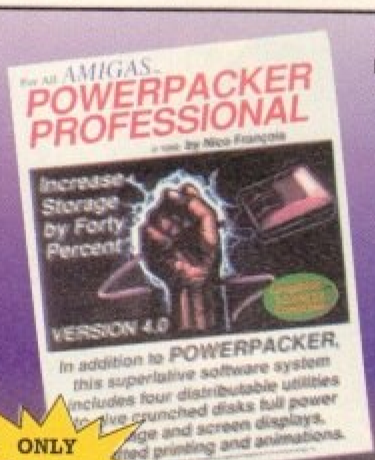


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At last from Microdeal comes the first ever low cost Stereo 16 Bit Sampler for the Amiga. Contains two 16 bit analog to digital/digital to analog convertors to allow stereo sound digitising. The system can record sound from suitable equipment such as CD players, cassette recorder or any 'AUX' or line level signal source via the stereo phone sockets provided. Stereo phono outputs are provided for connection to an amplifier or mixer. The hardware plugs into the serial and printer ports and so can be used with the whole Amiga range of computers. As if this is not enough, Clarity 16 also contains a Midi interface for use with a Midi keyboard or similar, which is compatible with major commercial software.



The Editor program provides the user with the ultimate in power and sophistication, packed with features which appear for the first time for any home computer. The fully multi-tasking, window styled editor allows individual samples to be loaded into the computer and edited separately.

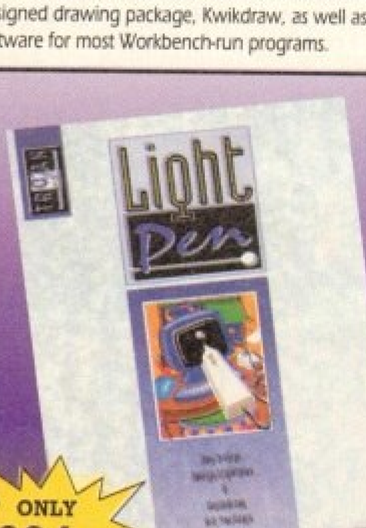
1Mb Ram is recommended.

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Clarity 16	£129.95	9977

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Videomaster will allow you to record monochrome, quarter screen pictures at speeds of up to 25/30 frames per second (Europe/USA) providing ultra smooth playback at high speeds. These pictures can be recorded from the output of a video recorder or directly from a video camera or a camcorder and replayed on your computer screen.

Videomaster can produce great 'grey' scale pictures from any video source with a pause or still frame facility. The colour filters provided in this package will enable the users of video cameras or camcorders to produce high quality still pictures in glorious colour.

Videomaster features a sound sampler as part of the hardware, though the software can be used with external sound samplers. This is supported by a full feature sound recording and editing program within the videomaster software. The Videomaster system also features a video sequencer.

The complete package contains the Videomaster video digitising and sound sampling hardware unit, TRI-Colour filters for colour camera use, comprehensive user guide and full system software.

Videomaster only works with Amiga 500 and 500 Plus models.



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ACCESSORIES & SOFTWARE BOX

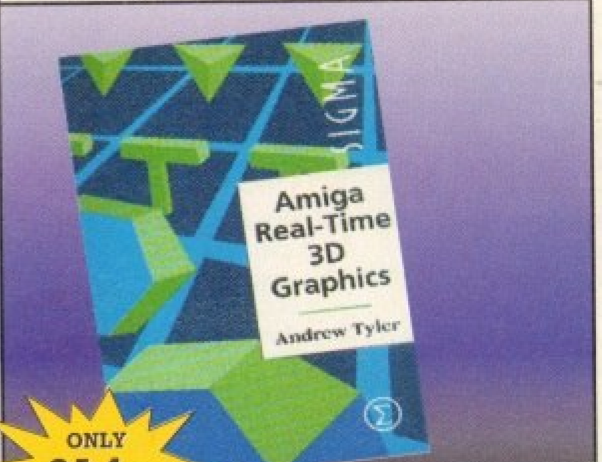
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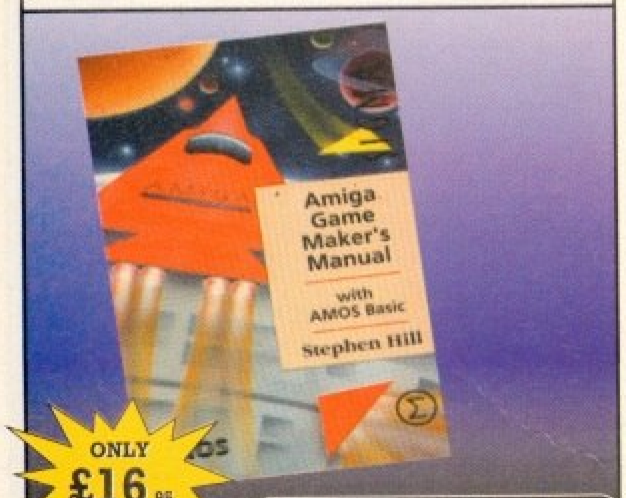


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Capture the colour

Alfadata's new 256,000 colour hand scanner displays its plumage to Stevie Kennedy

Colour hand scanners, once an expensive dream, have become increasingly popular in the PC market and, with the release of Power Computing's ColourScan, are gaining ground on the Amiga. There are dozens of perfectly good greyscale scanners around, many of which offer superb sharp images, but there's no substitute for glorious polychrome.

Supplied as a slick black scanning head with a well finished interface box, the AlfaColour is a smartly turned out piece of equipment and one which seems to have been solidly constructed. Similar to Power's offering in that it uses a virtually identical hand unit, this scanner soon shows that it does things differently.

The AlfaData unit is designed to work with all Amigas, though it is at its best on the AGA-equipped A1200 and A4000 range. Images are scanned in what distributors Gasteiner describe as 18-bit colour (there's no way of checking this at the moment) and saved out in bitmap IFF format.

In many ways this is an advantage as it keeps image file sizes below 1Mb for most scans, but it does have the disadvantage that without raw image data to work on, the user is stuck with the output unless a copy of ADPro is ready to hand.

REAL TIME

If AlfaData have ensured that the scanner works in 18-bit internally, they would be well advised to consider a colour 24-bit or 18-bit save option.

For the sake of those with AGA machines, it should be noted that SuperColour mode enables scanning directly in Ham8, a process which will even work in real time given a fast enough machine.

These AGA images, being virtual 24-bit in quality but very efficient on disk space, are ideal for those working with a small hard drive or a floppy-based A1200 machine.

Speed is, of course, a problem with images which are imported and processed at the same time, but by turning off the real-time option it is possible to scan a sizeable picture without it taking all day to appear on-screen.

The simple but effective control software will estimate the RAM required to scan and hold each image, so users with limited memory can ensure that their machines won't lock up because the scanner has gobbled it all up.

A problem most hand scanner users encounter is the difficulty of maintaining a steady scanning speed which, with the twin problem of keeping to a straight line, must ruin thousands of images every week.

In an attempt to make their scanner as easy to use as possible, AlfaData have included a warning beeper in the interface box which sounds whenever the scanning head is drawn too quickly across the target artwork.

This is at first an intensely irritating feature, and was almost responsible within five minutes for the violent end of the interface box, but after a while the user should adapt to the speed of the scanner and find the occasional complaint from the buzzer a useful judge of speed.

As long as real time scanning is disabled – and if it isn't the buzzer can drive one mad – the unit is generous enough to allow reasonably smooth operation.

Scan resolution is up to 400 dots per inch (dpi) in mono or dithered colour mode, or 200dpi for colour images, and scanning can take place in any of five modes.

SuperColour is slowest of all, importing data as it does and converting it to Ham8 format for display and export, but it is easily the best for quality on AGA machines.

On older Amigas, the software supports HAM (colour grey mode) and 16 greyscales (mono grey mode), giving the unit few big advantages over some of its much cheaper mono competitors. With AGA machines, full Ham8 or 64 greyscales are available, the latter in up to 400dpi, resulting in superb mono quality.

Unfortunately, Ham8 quality isn't quite up to scratch at the moment. Although the scanner itself seems more than capable of importing the colour data, the way in which the data is processed before arriving on screen or on disk leaves a lot to be desired.

Colour images, even in the SuperColour Ham8 mode, seem always to be dithered and grainy, and are saved in exactly the same way. There is no option to save raw 24-bit image data, so the user has precious little control over how an image will finally appear, and a revamp of the software seems necessary.

The distributors inform us that software updates are on the way, but for the moment a very promising scanner with well thought out hardware is being hampered by unforgiving and inflexible software.

This is a pity, as with better software I'm sure the AlfaColour could be a very attractive package, something that for the moment it just about fails to be. AC





Full colour domestic pets and sporting occasions, but what about the dithering?

SYSTEM ESSENTIALS
RED = Essential YELLOW = Recommended

1 Mb RAM | 4 Mb RAM | AGA | Accelerator | Hard drive

The bottom line

Ease of use 8
Implementation 7
Value for money 7
Overall 7

Distributor: Gasteiner Ltd
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GASTEINER

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The first 9Mb 32 bit Internal Ram Card for Amiga 1200

Features:-

- ★ Integrated 32 bit Ram conveniently expandable to 5Mb or 9Mb (comes with 1Mb installed). Giving a maximum capacity of up to 11Mb to your Amiga 1200.
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- ★ 100% compatible with all Amiga 1200.
- ★ Easy installation, just plug in and go.

Important:-

Please note:- To operate the Mathematic Co-Processor with clock rates over 14MHz you need a Quartz (Oscillator). The Quartz (Oscillator) must have the same clock rates as the Mathematic Co-Processor.

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AF1200 1Mb with clock, no Oscillator, no FPU Processor	£115.00
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The New 256,000-Colour Hand Scanner for Amiga

Powerful Colour Image Processing Tools for the Office or Home Environment. No longer a "Professional Task" to scan high quality images

Software features:-

- ★ Easy to learn and use intuitive user interface.
- ★ Real-Time Scanning display on screen.
- ★ Supports 256,000 colours and 64 greys for Amiga 1200 and 4000 with new AGA chip sets.
- ★ Supports 4,096 colours, 16 greys, dithered colour and black & white capabilities for all Amiga models.
- ★ Image size is limited only by the amount of RAM available.
- ★ Memory requested does not have to be Chip RAM.
- ★ Full multi-tasking with all Amiga computers.
- ★ Intelligent maximum scanning length indication.
- ★ Imports/Exports IFF file formats.

System requirements:

- ★ For all Amiga models with a Monitor or compatible TV set, 1 Megabyte of RAM and a floppy drive.
- ★ More memory and hard disk are recommended but not required.
- ★ Compatible with Amiga WB 1.3 and higher (WB 3.0 also supported).
- ★ Any painting, publishing, and OCR programs that load IFF files. Examples:- Deluxe Paint, Professional Page, Page Stream, Saxon Publishers, Migraph OCR.

PRICE £299

Hardware features:-

- ★ Easy installation, plug in and go in just minutes.
- ★ 256,000 colours, 105mm (4 inch) scanning width.
- ★ Built-in over-speed buzzer to prevent scanning too fast.
- ★ With SC (Super Colour), CG (Colour Grey), MG (Monochrome Grey), and D/T (Dithered/Text) modes selection switch.
- ★ Selects 50/100/150/200 DPI by resolution selector switch for SC and CG modes.
- ★ Selects 100/200/300/400 DPI by resolution selector switch for MG and D/T modes.
- ★ Metal Interface Box with a printer through port.

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- ★ External IDE HDD for Amiga A500/A500+
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GigaMem

Virtual Memory for Amiga Application

Most recent powerful application for the Amiga (e.g. for graphics, music, animation, raytracing, DTP,...) require more main memory than is available or possible to integrate. GigaMem is a program which simulates up to 1 GigaByte memory, which swaps onto any mass storage system (i.e. hard disk). Intelligent management accomplishes simultaneous use of several programs in a multitasking mode.

System requirements:-

- ★ GigaMem works with all AMIGA <R> computers with MMU (Memory Management Unit); i.e. Amiga's with 68020 or 68030 accelerator and MMU.
- ★ No restriction on type of HD controller and hard disk.
- ★ GigaMem is compatible to Kickstart 1.2/1.3 and 2.x.

PRICE £69.95

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Amiga Shopper best buy

Features :- True greyscales , 100-400 dpi , 105mm head , OCR option

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Touch UP and Merge It Software

Full OCR Version Software Available £99.00

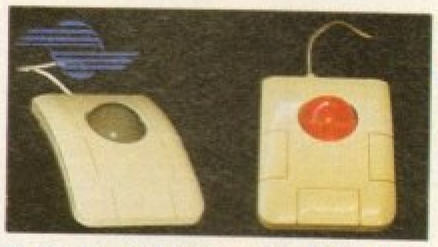
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Trackballs



GOLD AWARD WINNER IN ST FORMAT 92%

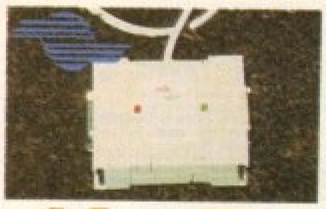
Stylish three button trackballs, with third button supporting auto fire and drag and hold

ST REVIEW 91%

With two colour shining Crystal Ball

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St Format 78%

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St Format 81%
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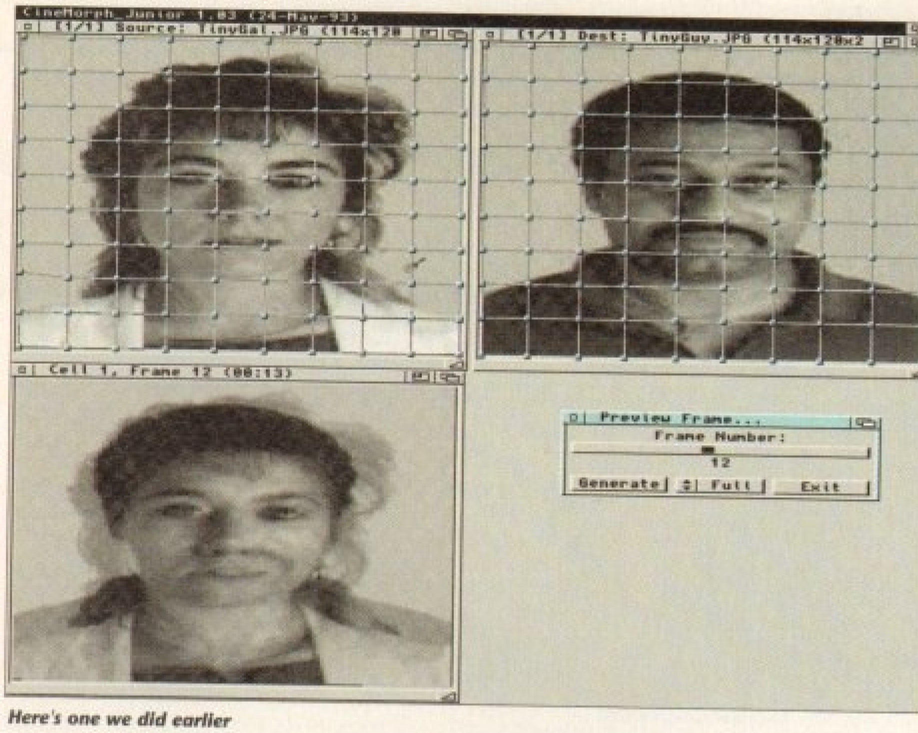
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Mastering CineMorph

Following on from last month's CoverDisk, we delve deeper into this amazing program and provide a step-by-step guide to morphing



Here's one we did earlier

Last month the essential information needed to create morphs was covered in the CoverDisk pages. This month we are going to take a look at some of the more advanced features facilitated by CineMorph, but before we dive in at the deep end, let's do a little recapping.

Before starting a new morph we need to decide whether to work on a single or dual image. Having done that we need to tell CineMorph, by choosing the appropriate mode from the Settings menu.

The difference is that single image loads the same picture into both the source and destination windows while dual image allows morphing from one picture into a completely different one.

Individual points can be moved in both the source and destination windows by clicking on them, using the left mouse button, and dragging them to new positions.

Multiple points are moved by holding down the Shift button, clicking on any number of points before dragging them and releasing the left mouse button.

During morphing, you may decide that it's time to start again and reset the points to their original positions using the Reset Points option from the Points Menu. To create detailed morphs it is advisable to zoom in to the picture and add more points. This is achieved by selecting an existing point then the Add Row and Add Column options.

Permanent

Once the points have been manipulated the results can be seen using the Preview Single option of the Morph menu which allows any of the 25 frames to be viewed. Once you are happy with the morph it is time to produce some more permanent pictures.

There are two methods of doing this and it is essential to note the difference. Generating images stores the resulting pictures as 24-bit images while rendering them uses the current screen resolution.

Morphed pictures can be saved as single images, as a sequence, or rendered as an animation. CineMorph does not have its own animation player, as the authors did not want to reinvent the wheel, so it is left for individuals to use their favourite PD viewer. Alternatively, you could load anims into an art package such as Deluxe Paint 3 which has a player built-in.

Well that's the summary over, now let's take a look at some more advanced features. As you may have discovered, the grid is great for positioning points but doesn't really give much idea of how the finished morph might look.

For this reason there is a Preview option in the Morph menu. However, previewing pictures can take quite a while, particularly on the A500 Plus and A600.

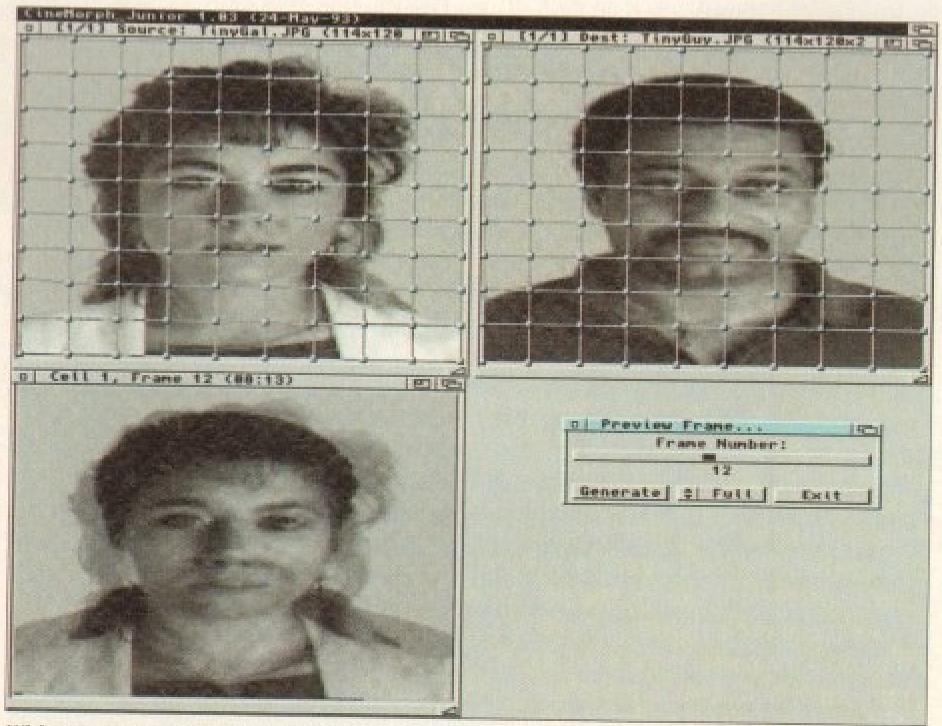
On the settings menu, you'll find an option called anti-alias which may be employed to remove or suppress what are commonly known as jaggies. These often occur when a curve is drawn on a pixelled display which is not of a sufficiently high resolution.

The result is an approximation to a curve that is comprised of a series of stepped, jagged lines (jaggies). This is an inherent problem of all computer displays but it is less apparent when working in higher resolutions.

One solution is to apply the mathematical technique of anti-aliasing. Again, because of the calculations involved, rendering times will suffer at the expense of accuracy. Sometimes the required effect is a fade from the source image into the destination one, rather than transforming them into each other with a morph. If this is the effect that you are looking for, choose the Dissolve Only option from the Morph Options.

Fading from one image into exactly the same picture is not a logical thing to do as this would result in a series of frames that are exactly the same. Therefore, this potential mistake has been programmed out of CineMorph and it is only possible to select the dissolve option in the dual image mode.

If you discover that a morph is not warping properly from one image to the other, check that the Dissolve Only option has not been selected by mistake. Although this may seem like an obvious statement now, it might not be so obvious when you are trying to work out where you are going wrong.



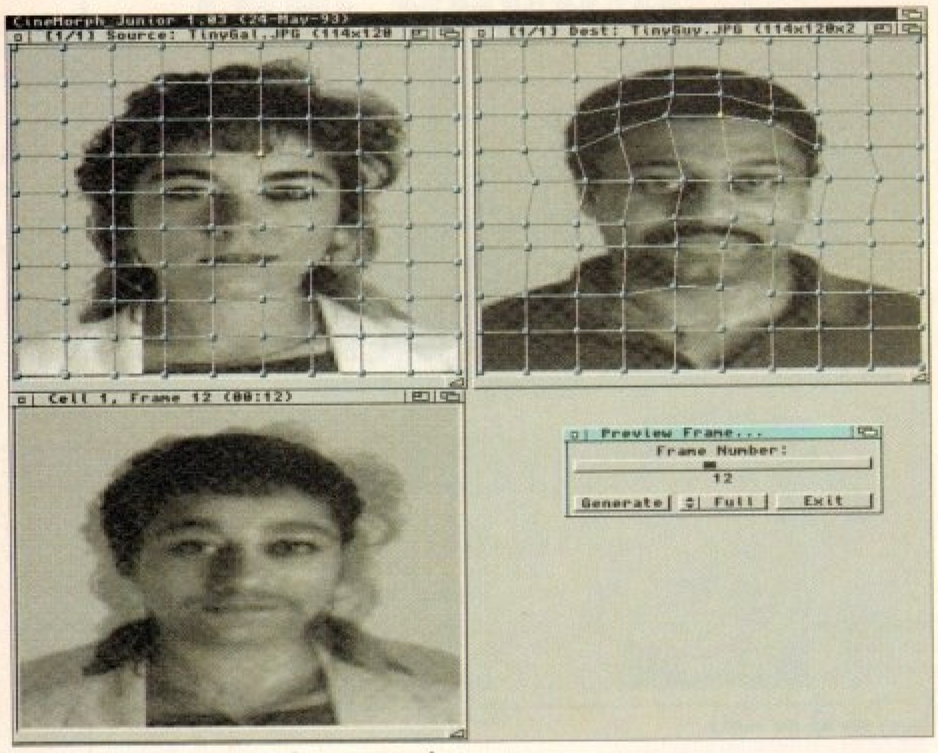
Without warping, morphs can look untidy

Reduced mono

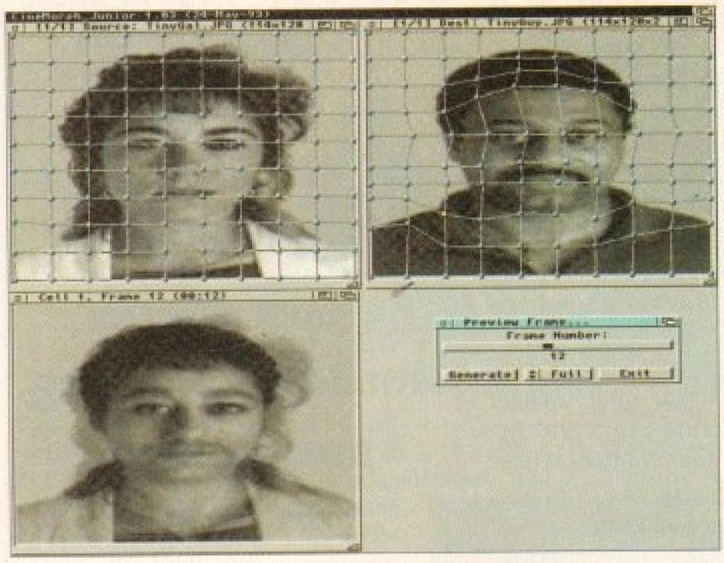
Rendering times can be reduced by working on a project using mono copies of your images that have been reduced in size by at least a half. Once you have perfected the morph the original colour images can be loaded in. The morphing information will be retained so that it works with these images.

OK, so much for theory, how about a spot of practice? On last month's CoverDisk there were two pictures, one of a man, the other of a woman. Unfortunately, 1Mb users were unable work in dual image mode because these

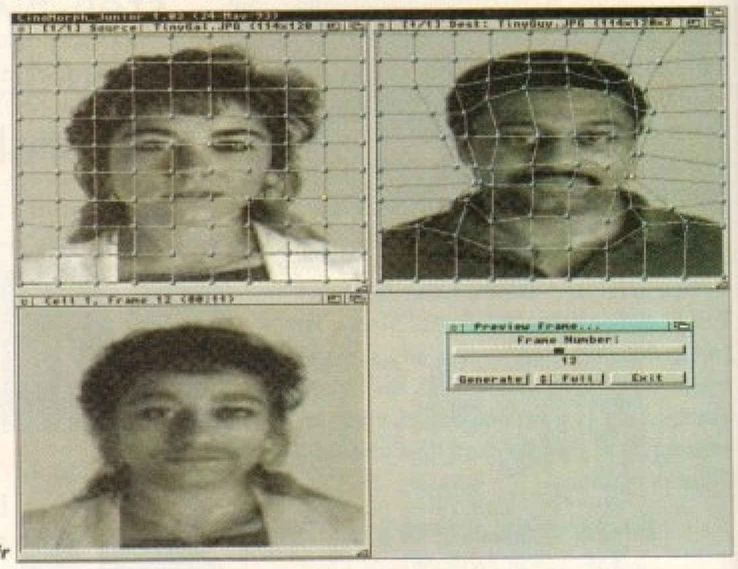
➤



After tidying up the face, two key areas remain..



...the shoulders



... and hair

images are too memory hungry.

To rectify this situation we have converted them to the IFF format and put them on this month's CoverDisk. Anyone experiencing memory problems should therefore use these pictures.

Once CineMorph has loaded, it is automatically in dual image mode so select Load Image from the Cell menu. Click on the samples directory and load in the tinygal image. Next we need to load the tinyguy image into the dest(ination) window by activating the window and selecting the appropriate image.

If we were to morph without moving any points the result would not be very smooth. To see what I mean, select Preview Single from the Morph menu and click on the Generate gadget. The first thing that you will notice is that the woman's hairline and shoulders do not match up with those of the man. The facial features do not match up either and the result is blurred.

Nose & mouth

During a morphing animation involving faces, attention is naturally drawn to the eyes, nose and mouth so let's tidy up those areas first.

Click on one of the two points directly below the man's chin then look at the position of the corresponding point on the woman's image. On the woman, both of these points lie on her chin whereas the corresponding points lie below the man's chin. On the man, move these two points so that they are on his chin.

Look at the line directly above these points on the man then at the corresponding line on the woman. When comparing two images in this way it is a good idea to look quickly at one image then quickly at the other and repeat this rapidly two or three times.

If you have just tried this technique you will have discovered how easy it is to spot differences between the images. Clearly, this line on the man is too low as it passes below his bottom lip while the corresponding line passes across the top of the woman's bottom lip.

To rectify the situation, hold down the Alt key. Now select one of the dots on the offending line of the man picture. All the dots in this line should now have changed from grey to yellow. Keeping the Alt key pressed, move the line up so that it lies on the man's top lip then release both the left mouse button and the Alt key.

Having done that, examine the next line up around the area of the nose. On the woman the two dots by her nose lie either side of her nostrils so position the corresponding points either side of the man's nostrils.

The next line up, on the man, is too low and is offset to one side of his eyes. Using the Alt key again, re-position this line so that it lies on his bottom eyelid and there is a point at each corner of his eyes.

On the line above, there are four points on the man's forehead. Click on each of these in turn and look at the position of the corresponding points on the woman. They all lie roughly on her fringe so these points on the man should be moved to his hairline.

The final step for the face is to examine the four points directly above the ones you have just moved. On the woman, they all lie in the middle of her hair while on the man they are very close to his hairline. Obviously, this line should be moved up on the man so that it lies in the middle of his hair.

Having done this, click on the generate button and study the results of your efforts. If you are at all unhappy with them, make small adjustments to the dots on the man until you are satisfied with the results.

There are two key areas to be altered now, namely, the shoulders and the blur created by the woman's hair. First, let's take a look at those shoulders.

Move the mouse pointer to the bottom left point on the woman image then click on the one directly above it. This lies on her shoulder, whereas the corresponding one on the man is lower down on his shoulder. Move this point so that it is actually on top of his shoulder then click on the point above it.

This one is too close to his body so move it up half a square. Follow the grid line diagonally to the right, click on the next point and move that up too. Now select the point below it and move it so that it touches the top of his shoulder then click on the generate gadget.

Follow the same procedure for the other shoulder then make any minor adjustments, to both shoulders, that you feel are necessary.

By now you should have a good understanding of how to successfully morph between the two images. There isn't enough space to explain in detail how to tackle the hair but, as the same technique is used, there should be few problems. Finally, when you are happy with the morph, save the project using the Save As option and render the animation.

Lines and curves

Again, CineMorph provides an effective way to judge how things are progressing in the form of the Splines option (on the settings menu). By selecting Display Mesh As Splines, the grid lines are replaced with curves.

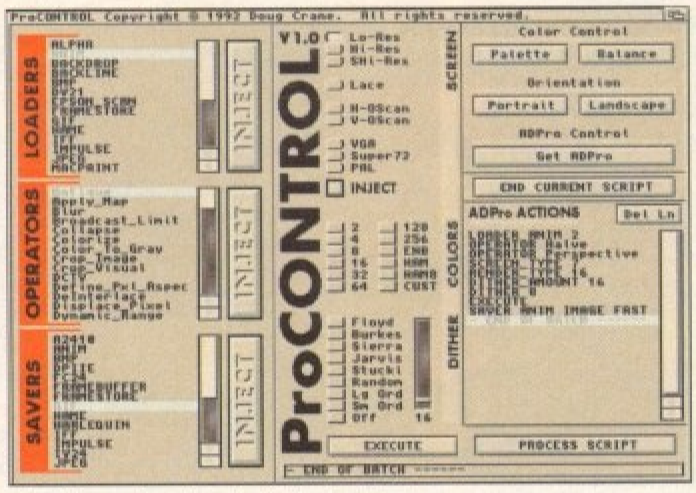
These are a far better indicator of the morph but are less easy to manipulate than lines due to the complex calculations that are required. Straight lines can be positioned more accurately and only give way to splines when a quick preview is required.

The quality of morphing is controlled using a similar but conceptual grid. Obviously, the number and position of points is mapped from the user's grid; however, the type of line is controlled independently.

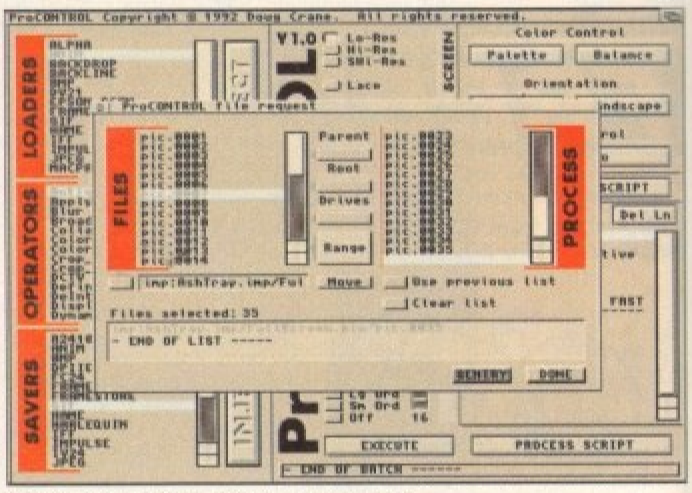
By default, straight lines are used which leads to shorter rendering times at the expense of output quality. Improving this type of morph may be achieved by adding lines, as described in the resume, to provide more detail.

Alternatively, the conceptual grid may be changed to splines thereby producing more effective morphs that take longer to render.

As these are conceptual lines, used only to specify the morphing method, they do not have to be the same as the line type that is used in the input and output windows. Choosing the internal mesh type is achieved by toggling the Use Splines option of the Settings menu.



The ultimate in point and click, just select and inject – it couldn't be simpler



Automated multi-file processing made simple with the program's excellent range loader

Total control

At last a friendly face for ADPro that makes astounding special effects a simple matter of point and click...

To say ADPro is blessed when it comes to updates would be something of an understatement. However this the ADPro evolution doesn't directly involve the program itself – although the latest v2.3 of the software is essential.

In the past the main complaint concerning the program was automation, or batch editing as it's more often known. To give ASDG their due they have made valiant efforts of late, primarily in the form of Fred, the rather quaint acronym for ADPro's very own frame editor.

Although perfectly adequate – after a little practice – Fred nevertheless still received some flak due to the need for at least a rudimentary knowledge of ARexx in order to build your own designer scripts.

In addition, processing via the program was very much a cut and paste procedure – building anims, compositing frames, file conversion and so on. All very handy, but not the sort of stuff to set the world on fire.

However even with its limitations it must be said that the inclusion of countless mini scripts which can be appended to build really huge multi-processing epics has certainly won the hearts of many – especially those who have a still frame recording facility ready to take advantage of the program's output.

POINT AND CLICK

Still, even with the best efforts of Fred, flexibility was – and in fact still is – a problem. As a consequence, ASDG have now released ProControl, a spectacular point and click interface that makes even complex processing and DVEs – digital video effects – a doddle.

For the ADPro aficionados, the ProControl screen shot may well seem vaguely familiar, being very reminiscent of third-party ADPro utilities such as Macro Maker and Macro Studio, both of which have made various attempts at point and click automation in the past.

Alas, none of these third-party products have managed the power of ProControl and tend to suffer badly when attempting to keep pace with the flood of ADPro updates which seem to add a new range of features almost daily.

lthough graphically similar to the various third-party efforts, the real power of ProControl isn't that obvious. At its most simple processing consists of loading an image or range of images applying one or more operators, rendering in the format of your choice and saving-out as either individual frames or as part of an anim.

The next step up might be to composite two images together maybe employing the aforesaid operators to produce dissolves or maybe bizarre crossfades.

Better still, composition also allows animation between the two images – and thereby offers the first step to pseudo DVEs with one image sliding across its counterpart over a predefined distance and number of frames.

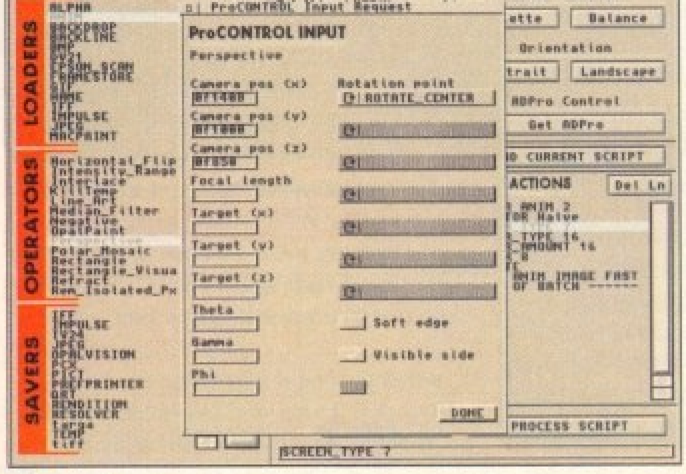
It's at this level where the subtle power of the package starts to impress. In order to achieve the aforesaid DVEs the program uses two forms of incrementing variables.

In the first or F form, the software automatically calculates the increments between two points over a specified number of frames. In the second or D form, a fixed increment is added by the user and the software simply applies this amount from a starting point over the desired number of frames.

Obviously to achieve movement across a backdrop some form of incrementation is essential. However in a stroke of pure genius the designers of ProControl have added the option for using increments in every ProControl requester requiring input from the user.

As a consequence, variables can be applied to operators such as perspective, sphere, refract, ripple, rotate... the list goes on and on. The end result is swirling statics and better still, animated animation.

Courtesy of ADPro's anim loader, even existing anims can be processed to procure animation within animation – pseudo DVEs at a stroke, and better still it's really easy...



DVEs at a touch

As if that's not enough, various scripts can be strung together, so for example an anim or static could be loaded, scaled and transformed into a ball within one script and then zoomed out with the assistance of the perspective operator in the second script.

When life becomes more complex – as in the example listed above – ProControl offers a brilliant touch of forward thinking by allowing the user to select files that – as yet – do not exist.

VIRTUAL FILES

OK, I know that sounds a bit confusing, but in practice it simply means that the program keeps a record of all the files which will be produce by the script. As a result you can select these virtual files – which it knows will be created when the script is run – but as yet only exist in the program's "memory".

In addition, the point at which an operator or composition increment is applied can also be defined. For example, to move an image across and then down a backdrop you would simply add two loaders. The first gives the horizontal variable increment and distance and the second the vertical.

To apply over 30 frames with a change in direction half way you simply click on the loader lines – within the script window – and set the frame in/out at 1/15 and 16/30 respectively. When processed the anim or files would show an image sliding over the defined distance with a direction change in the middle.

With this kind of power there's no reason why a combination of variables, operators and the frame in/out options couldn't emulate even the most complex DVEs, as seen on TV.

The real beauty of the package is that it can be as simple or as complex as you want it to be. At the most basic level you simply click on the loader, perhaps followed by some operators.

Next you define the screen format and dithering prior to rendering with the execute button. Lastly simply pick a saver and run the script. Whether it be one image or 1,000, the effect will be the same – a whole directory full of designer graphics.

Whether you want to add animation or composition is your choice but if you do there's relatively little effort involved on the part of the user.

As you've probably guessed I'm more than a little impressed with ProControl and in my opinion at least the impact of ADPro is increased tenfold by the presence of this spectacular add-on.

Don't miss next month for a look at ADPro2.3, the mysterious Sentry – plus the usual array of upgrades on both the firm and soft side of the Amiga scene.

Remember, ProControl requires ADPro 2.3 to operate, so make sure you're either upgraded or invested in the very latest version before you invest.

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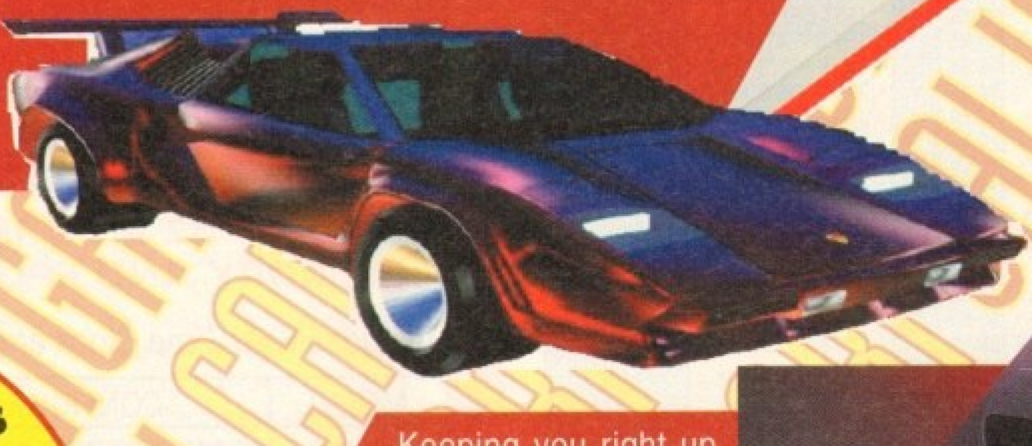
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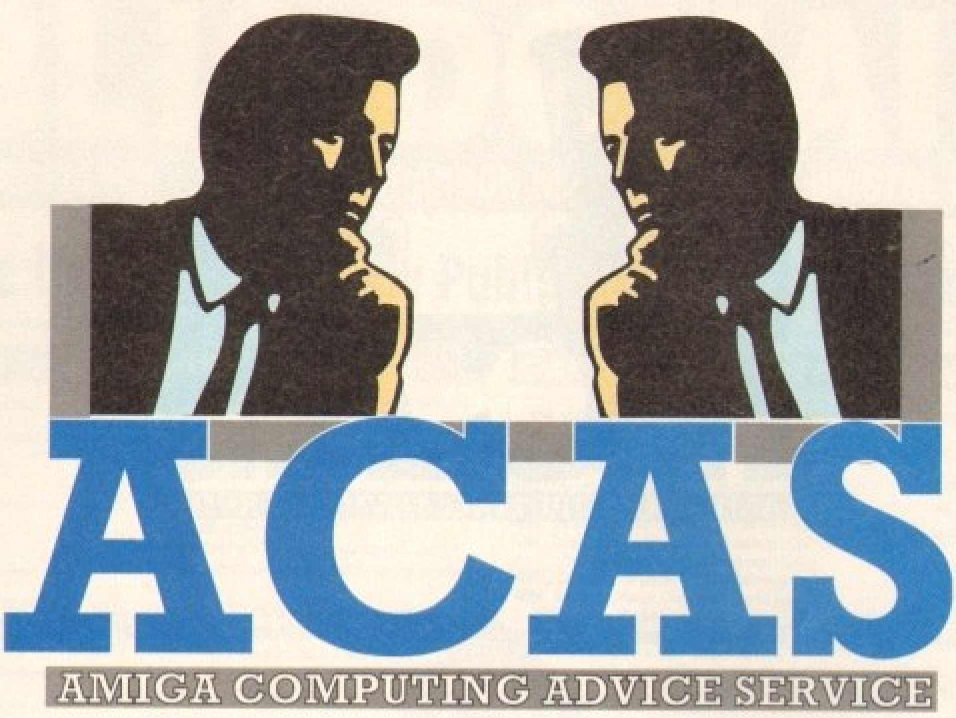
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Beginners' questions galore this month with advice on dodgy drives, A1200 compatibility, using CoverDisks and more

High hard drive transfer rate

Like Martin Grundy (ACAS issue 61), I too couldn't get MaxiPlan4 to work from my A1200 hard drive, in spite of copying all the files and using an assign statement in my startup-sequence.

When I read his letter in the June magazine, I tried your solution and MaxiPlan came to life from my hard drive so I suspect that I used improper syntax in my original assign statement.

While the main program now worked, the Help function for each menu still wouldn't work. Each time I tried to access Help, the screen would flash and the main screen would return.

The reason I'm writing this note is to offer some advice that may help some of your readers with this and possibly other problems with software on their hard drives.

I had an earlier problem getting Pacific Islands to work from my hard drive in that the opening animation played most of the way through and when it got to the end it simply quit.

When I checked at the local Commodore dealer, the salesman suggested that the maximum transfer rate on my drive might need to be changed.

He gave me a number to try and sure enough it worked. I only changed this number on my games partition, since the programs on other partitions worked fine.

When the Help function of MaxiPlan wouldn't work, I tried it on the partition containing MaxiPlan and once again it worked. Here's the information that may help some frustrated hard drive users:

From Workbench 3, double click on the tools drawer, double click on the HDToolBox icon, click on Partition Drive, click on Advanced Options then click on Change. This will allow access to a box labelled Max Transfer.

This was set at 0xffffff and the rate I was advised to use is 0x1fe00. After changing the Max Transfer click on OK, Save Changes To Drive then Exit and reboot.

Bob Stinson, Maple Ridge, Canada

Many thanks for the information regarding hard drive transfer rates. I am sure that there are other readers who will find this knowledge useful.

We would like to answer your unpublished questions regarding reader offers but have misplaced your address. Please drop us a line and we'll forward the information.

Binary basher

I have had an Amiga for some years now and have all the issues of *Amiga Computing*, but I have never seen an explanation of the code which appears on-screen when a binary file is read. The attached sheet shows what I mean, and is a part of the WB2.0:utilities/display file. It looks like the higher numbers of the Ascii code and is obviously related to machine code.

I would very much like to see an article on this subject which would explain what it is and how it is related to machine code.

The same query applies to hexidecimal code and its relationship to machine code. A tree diagram showing all of the high level codes and the stages they go through to actually operate the Amiga would, I am sure, take a lot of the confusion out of coding.

D J Lewis, Newbury

It is unlikely that you will ever see an explanation of binary files such as the one you refer to as they are executable programs and meaningless to humans when displayed using a command such as Type. The way to go about producing such files is to write a program, using a text editor, then compile it using a compiler or assembler. Finally the resulting object code may be linked with the system libraries to produce a program that is executable.

It is however possible to decode executable files using a tool known as a disassembler. The result is a screen full of strange looking characters and a translation into more readable ones.

Trying to work backwards is not a good way to learn how to code. If you are serious about learning how to program the Amiga, forget about binary files and take a look at assembly language, C, Pascal, Amos or any other language.

Once you have gained some fundamental programming knowledge it is also advisable to obtain the ROM Kernel Reference Manuals which explain how the Amiga's operating system works.

CoverDisk Calamity

I carried out the instructions for decrunching the CoverDisk as described in the magazine and finished up with two separate disks; one for Infofile and the other for Scala.

When loading Scala the program continually crashed and on one occasion the computer went completely dead until I switched off and rebooted. I am now too scared of trying that one again.

When the Infofile is selected a requester appears with the following information:

```
Type can't open sys:INFOFILEBLARB
                object not found
Do you wish to continue
```

I replied YES, then this was opened onto the screen:

```
Can't open format for input
Can't open lz for input
Can't open Endif for input
Can't open Echo for input
Can't open Failat for input
Can't open Endcli for input
Can't open Infofile.lzh for input
```

I am a beginner having had this A1200, my first computer, for only three weeks and the above information is so much Greek to me. Nothing in any of the manuals helps.

I've sent the disk back in order to check whether that is at fault but have not yet had it returned. Any help you can give me will be greatly appreciated.

F R Fisher, Dover

The error messages that you have told us about are generated because the Amiga could not find the files that our program asked it to access. The program tries to execute commands which it looks for on the system disk – the one that was used to boot the system.

As you probably used the Workbench disk, it became the system disk and hence our program couldn't find the files it needs to unarchive Infofile. The solution is to boot your Amiga using our CoverDisk before trying to run any programs that are on it.

Quite a few novices have contacted us ➤

Floppy failure

I am a computer novice. I put software in the disk drive and let the machine do the rest! I have come across an annoying trait when attempting to load legitimate disk copies.

This has developed gradually over a period of time. I place the copy in the internal disk drive, a whirring noise accompanies the disk drive light, to be followed by the message Not a DOS Disk in DF0:.

When I use the original disk in DF0: it works fine. It also doesn't make any difference which way the copy is made, eg Workbench or MiniOffice disk utilities.

However, when I use DF1: the offending copy works perfectly. This results in me working predominantly in DF1:, using repeated disk changes, a thing I had hoped to avoid by buying an extra drive.

Mike Birch, Lincolnshire

The good news is that the problem is not due to a virus, although regularly checking for these is always a good idea. The bad news, however, is that the read/write heads in your internal drive may have become mis-aligned.

If this is the case, your local Commodore dealer should be able to re-align them. It is also possible that the heads are dirty, so ask your dealer to check this too.

ACAS

AMIGA COMPUTING ADVICE SERVICE

regarding similar problems in using programs on Amiga Computing CoverDisks. They have received messages that files are missing when they do actually exist on our disk.

Further problems can arise if the CoverDisk has not been used to boot the system. As part of the boot procedure, the Amiga reads a file called the startup-sequence. This file often contains AmigaDOS commands to tailor the computer system and prepare it for some of the programs that appear on our disks.

This is also true of the disks that we archive in order to give away more programs. In order to use our disks it is always necessary to boot from the disk which contains the program that you want to run, rather than from the Workbench disk.

While on the subject of Infofile, some readers have discovered that it is only possible to store a limited number of records. The reason for this is that they are saving to the unarchived disk which is already quite full. It is advisable to format a blank floppy and use this for data.

When saving an infofile, delete the text in the file requester and enter the data disk name followed by a colon (:) then the file name which should end in dot FLR (.FLR).

To load an infofile from the data disk, insert it in any drive and select the Open option. Click on the Drive gadget until the name of the data disk appears then select the file that you wish to load.

A1200 compatibility

I was very pleased to get Pacman as a CoverDisk program but after all the trouble it has caused me, I wish I'd never seen it.

I loaded the Pacman program onto the hard disk of my A1200 and to run it I had to use Enhanced Chipset but I didn't mind that. What I did mind was the game crashing on me and the screen going back to the way it appears if one tries loading straight from disk.

I immediately thought it was a hardware fault and duly got Wang down to sort it out. Their engineer thought it was a machine fault and replaced the machine, reinstalling my hard drive. He went away and I thought the problem was solved so I played the game. It crashed again.

I phoned Wang but after explaining the problem, they felt it was most probably a software fault. I rang to speak to David Dibnah but was told the bad news that he had left. I was then told to write in and hope to get my answer that way.

I hope you can help. Is this a software or a hardware problem raised when the enhanced chipset is selected on the A1200?

Mr B K Oliff, Cardiff.

This is a software problem caused by the programmer failing to follow the programming guidelines laid down by Commodore.

In order to play the CoverDisk Pacman, disable the CPU cache as well as selecting enhanced chip set from the boot options.

New A1200 owners, who are wondering how to access these options, should hold down both mouse buttons while booting their machine.

Inter-machine file transfer

Q Here's one I bet you can't help me with! A long time ago I had a 520ST (well wash my mouth out) and produced many pictures using Neochrome.

Eventually, having come to my senses, I sold off the Atari and bought an Amiga (1.2) A500. I have now worn that one out and bought an A500 Plus rather than an A1200 which sounds great but would not load most of my software.

Anyway, what I need to do is load the Neochrome pics into a program that will convert them into IFF picture files. There must be a way. I have tried some programs that say they can convert (such as Grinder) but they hang up as soon as the Atari disk is put into the machine.

Please help as I wish to compile a book featuring these pictures and with luck make loadsa money!

Tony Adams, Gillingham

A *This problem breaks down into two smaller ones. One is to convert the file format, and the other to transfer a file from an ST disk to an Amiga one.*

I am reliably informed that ST disks use the same format as IBM ones. If you still had access to an ST, the file format could be changed using GemView and then read by the Amiga using Dos-to-Dos, MessyDOS or any similar utility.

As you have sold the ST (good move), the way to proceed is to copy the files to an Amiga disk, using one of the above utilities, then change the file format using one of your file transfer programs.

I suspect that the reason Grinder failed is because you asked it to read from an ST format disk, which it was unable to do.

Dried up Fountain

I own an Amiga 600 and I have just got another disk drive. My problem is that when I try to use the Fountain program on the Extras 2.0 disk, it comes up with:

```
Cannot Open Diskfont.library version 37.
```

In the manual it says to enter this line in the User-Startup file:

```
Assign font: AmigaFonts2.0 DEFER
```

but that makes no difference.

V Horton, Rochdale

There are actually two problems here, the first is that you have mistyped the AmigaDOS command. There should be an s after the word "font".

The other problem is that the system cannot find the file Diskfont.library which should be present in the Libs directory of your system disk (ie the disk you booted from).

It can be found in the Libs directory of the Workbench disk so booting from this disk should sort matters out. If not, the file is missing and you need to copy it across from the original Workbench disk.

To do this, boot from the original, insert your boot disk in DF1: and open a shell window. Now enter the AmigaDOS command:

```
Copy df0:Libs/Diskfont.library to df1:Libs
```

When you boot from your usual work disk, you should find that Fountain runs correctly.

Maxiplan saving

I bought a copy of your Maxiplan 4 book, but cannot save any work. I chose save from the profect menu and entered "one" into the edit box above the words Maxiplan:4/maxiplan worksheets. On being told the disk was full, I tried a formatted disk to be told that it cannot be created and "Please check the the format of your file name". When I changed to DFO: I was told: Not a DOS disk in device DFO: The computer is a 500 Plus and I would be very pleased to hear from you regarding what is probably a simple matter but for my computer inexperience.

Alan Feldman, Middlesex

When a requester appears telling you that a disk is not a DOS disk it means that it has not been formatted (or is commercial software that is copy protected).

The first thing to do is to load Workbench, then format a disk by clicking on its icon and select Initialise (WB1.3) or Format Disk... (WB2.0 and higher). Use the rename option to change the disk name to something useful like MyMaxFiles.

Now when you want to save from Maxiplan you should specify the disk and file names in the requester, for example:

```
MyMaxFiles:FileOn
```

Modem muddling

I have been given a modem made by Master Systems (Data Products) Ltd. The person who gave me the modem has lost the manual.

I have tried getting a replacement manual for the modem but the company wants £30 for one (which is a bit expensive for me). I was wondering if you may have come across the modem or if a reader has any details about it?

All I need to know is the DIP switch settings, the commands necessary for use on a BBS and what the nine modes are. I would be very grateful if you could help me with this problem. Below are all the details about the modem that I know:

Master Systems (Data Products) Ltd
MSI 2123
Revision: REV 2 UK
Model 21/23

Peter Thomas, Slough

Unfortunately we don't have any details of this modem so we are unable to tell you what the nine modes on the dial are. Perhaps one of our readers has this model and will be able to help you out. Comms software and related topics are covered regularly in Amiga Computing's Amiga Insight section. Basically you will need some terminal emulation software, such as Ncomm, which is available in the public domain.

The actual commands that are entered to navigate a particular BBS will depend upon the software that the board is using. However, all good boards have a help facility and are quite easy to use.

You got problems too? Then drop a line to Amiga Computing Advice Service, Europa House, Adlington Park, Macclesfield SK10 4NP and we'll move heaven and earth to help in these columns. But sorry, we cannot reply personally, so save those SAEs.

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- G34 **RETURN TO EARTH** Elite type, space adventure
- G35 **LLAMATRON** 512K & 1Mb Shoot 'em up
- G38 **DRIP** * Arcade type, avoid the nasties!
- G39 **BUG BASH** Shoot 'em up
- G40 **ASTEROIDS** Arcade classic
- G41 **ESCAPE FROM JOVI** Space Arcade
- G42 **GRAV ATTACK** Shoot 'em up
- G43 **DOWNHILL CHALLENGE** Tactics, ski to win
- G44 **BATTLEFORCE** Fantasy roll playing game
- G45 **DRAGON CAVE** Dungeon Master type
- G46 **THE J.A.R.** Arcade 1/2 player
- G47 **RINGS OF ZON** * Arcade roll playing game
- G48 **MAYHEM** Space Adventure – good
- G49 **MECHFIGHT RPG** Roll playing game
- G50 **THE TENNIS GAME** * (P ONLY) Arcade
- G51 **BUCK ROGERS** (PD GAME) Space shoot 'em up
- G52 **GREYSLAYER** Arcade adventure
- G53 **SCUM EATERS** Shoot 'em up
- G54 **STAR TREK 2** * (3) Arcade adventure
- G55 **POM POM GUNNER** * Arcade shoot 'em up
- G56 **FRUIT MACHINE** * Excellent
- G57 **MECHFORCE** (2 Disks) RPG
- G58 **SEA LANCE** * Submarine Simulation
- G59 **KLONDIKE** Cards
- G60 **TREK TRIVIA** Quiz for Trekkies
- G61 **SURVIVOR** Space adventure
- G62 **AIR ACE II** World War 2 S.E.U.
- G63 **COMP ADV SOLUTIONS DISK 1**
- G64 **COMP ADV SOLUTIONS DISK 2**
- G65 **MERV THE MERCILESS** Platform, good graphix
- G66 **SNAKEPIT** Make the snake grow! For the kids
- G67 **TREASURE HUNT** (6-8 yrs) Help Long John Silver
- G68 **CHEAT LIST GAMES V1.0**
- G69 **WACKO JNR IN WONDERLAND** Kids will love this
- G70 **PARACHUTE JOUST** Good graphics
- G71 **CRYSTAL CAVERNS** Arcade adv, spells & combat
- G72 **TREK-73** Space text adv
- G73 **ZEUS – THE GAME** Puzz tiles
- G74 **DUNGEON DELVER** (2 Disks) Mazes
- G75 **PICK UP A PUZZLE** * (2 Disks) Jigsaws
- G76 **CHAINSAW DEATH** * Futuristic maze type
- G77 **CAN YOU PICTURE IT** * (2 Disks) Jigsaw
- G78 **CROSSFIRE** * Excellent for kids
- G79 **BALLOONACY** * Bomb the skyscrapers
- G80 **WOODEN BALL** Marble type
- G81 **DEMOLISION MISSION** * Bomber
- G82 **BLACKJACK** Card game
- G83 **HYPERBALL** Marble type
- G84 **PETER'S QUEST** Arcade –Rescue the Maiden
- G85 **KIDS PAINT** Colouring book
- G86 **YELP** Kids enjoy this one
- G87 **TURRICAN II DEMO**
- G88 **AMIGAMAN GAMES** 10 games
- G89 **BIONIXS CHALLENGE II** Good
- G90 **SHAPES** Very playable for kids
- G91 **GO LOOLY** S.E.U. Good graphix
- G92 **STAR TREK THE NEXT GENERATION**
- G93 **BLOCKIT** Good graphix – Ace
- G94 **HACK** Text adv
- G95 **DRAGON TILES** Great tiles game
- G96 **BOARD GAMES**
- G97 **ATIK ATAK** C64 game
- G98 **AVALANCHE** Catch the balls
- G99 **BART SIMPSON** Scrolling S.E.U.
- G124 **PIPE RIDER** Space Invader S.E.U
- G125 **RAMIFY** Pairing
- G126 **RUSH HOUR** Frogger – Get across the road
- G127 **TOMTESPELET** Speed ball type
- G129 **WET BEAVER GAMES** Pong
- G130 **WIZARD WORLD** S.E.U. Platform
- G131 **WORLD OF FOOLS** S.E.U. collection – Excellent
- G133 **CARD SHARP** 5 card games
- G134 **TOTAL WAR** Risk type
- G135 **AIRMANIA** Platform
- G136 **SKYFLYER** WWII S.E.U.
- G137 **PUGGLES** Q'bert brill
- G138 **SQUATS REVENGE** Wolf clone
- G139 **PAIR IT** Shapes
- G140 **GAMES COMPILATION I** 6 games
- G141 **ATLANTIS I** Strategy
- G142 **NAPOLEONIC WAR SIMULATION** Strategy
- G143 **MISSION RAID PART II** S.E.U.
- G144 **SNAKES & LADDERS** Good
- G145 **GAMES GALORE VOL 7** For the young
- G146 **AIR WARRIOR** Flight simulation
- G147 **CAR**
- G150 **NETHACK** (2 Disks) D+D Adv
- G151 **E-TYPE** Arcade S.E.U.
- G152 **DUNGEONS OF NADROJ** Hacktype
- G153 **QUICK & SILVER** Platform, Excellent
- G154 **MASTER OF THE TOWN** Shoot the sign posts
- G155 **BRAINBALL** Pinball type
- G156 **ETHOS** Text adv + pics
- G157 **BATTLE CARS** 3D cars S.E.U.
- G158 **CHALLENGER** Quiz - 5 player
- G182 **CATACOMB** Graphic adv – very well done
- G183 **KINGDOM AT WAR** War games
- G184 **SMASH TV RIPOFF** S.E.U. Futuristic
- G185 **DOODY** Mario type platform
- G186 **PICK OUT** Pair it. V. good
- G187 **NU-SHOOT EM UP** Space
- G188 **SOLID QUAD** * Racing – Fab!
- G189 **STRIKE BALL** Baseball. Brill!
- G190 **PARAGON** Marble Slide
- G192 **CRAZY SUE** Platform. 1st rate
- G193 **HENRY IN PANIC** Manic Miner – very addictive
- G194 **CONCENTRATION V3.3** Pair it – amazing graphix
- G195 **DESTINATION MOONBASE** Thrust
- G196 **ESCAPE FROM JOVI III** Caves
- G197 **NO MANS LAND** War S.E.U.
- G198 **DOMINOES** V. Good
- G199 **RAPHAELS REVENGE** Turtle S.E.U.
- G200 **MIDNIGHT THIEF GAME** Adv
- G201 **LAMER GAME** Wolftype shoot the beasties
- G202 **LETTRIX** Shapes with time limit
- G204 **GRUB GRABBER II** Help Elvin! Avoid gremlin
- G205 **SWORD OF WORLOCK** 3 disk Adv.
- G206 **A NIGHT AT THE TOP** Terrorist adv
- G207 **NIGHT AT THE TOWN** Text adv
- G208 **QUADRIX** Puzz. Excellent
- G209 **YUM YUM** * Pacman
- G210 **REVENGE MUTANT CAMELS** S.E.U.
- G211 **BATTLEMENTS** Hunchback platform
- G212 **LEMMINGOIDS** Blast them!
- G217 **WEIRD IN EDGEWAYS** Puzzle
- G218 **KARATE WORM** Platform-cute
- G219 **SNAKE IN THE GRASS** Platform – neat
- G220 **WAR OF THE FOUR** Graphic adv
- G221 **WIZARDS DOMAIN** Graphic adv
- G222 **PIXIE KINGDOM** (2)
- G223 **ARCADIA** Breakout – very popular
- G224 **PORK A PORK** Pop the balloons – stop the foxes
- G225 **MR BRICK** – Mario type
- G226 **RAID III** S.E.U. – wicked
- G227 **SERENE III**
- G228 **WOTSITSNAME** Quiz
- G229 **TETREN** – tetris
- G230 **HUMPTY & THE ALIEN INVADERS** Manic Miner
- G232 **LOTHIAN** Graphic adv
- G233 **OMEGA RACE** S.E.U. Great
- G234 **MENTAL IMAGES DISK 2** 3 games
- G262 **MR & MRS** Young platform – very good
- G263 **TANX** Great 98%
- G264 **DEFENDA** Arcade 95% Brilliant conversion
- G265 **GRAND PRIX SIMULATOR** Mega
- G266 **NUMBER FUMBLER** Number puzzle
- G267 **LEMMINGOIDS** Blast away
- G268 **GROWTH**
- G269 **SKATE**
- G270 **PROJECT 1**
- G271 **LAZER ZONE**
- G272 **LEMMINGS PACK**
- G273 **THE MAZE GAME**
- G274 **SUBCULTURE**
- G275 **APIDYA**
- G276 **SHOOT OUT**
- G277 **SUPER SKODA CHALLENGE**
- G278 **COMPUTER CONFLICT 2**
- G279 **ANTEP & SLOT CARS GAME** RPG
- G280 **TRICKY & THE TURN GAME**
- G283 **CARD GAMES 2**
- G285 **MIND GAMES 21**
- G286 **HYPER TEXT CHEATS**
- G287 **TECHNOBAN** Puzzle game
- G288 **LORD OF HOSTS**
- G289 **THE BEAST** Mission to kill
- G290 **NADILOT RUN** Cat & dog chase
- G291 **OUCH** Clobber those moles
- G292 **ABSOLUTE ADV VOL ONE**
- G293 **CHAOS STRIKES BACK** Maps etc.
- G294 **GAME TAMER V3.0**
- G302 **AMOS CRICKET** Good cricket game
- G303 **ARAZNAX** 40 levels
- G304 **HELL ZONE** Elite
- G305 **FATAL MISSION** Good shoot 'em up
- G306 **GHOSTSHIP**
- G307 **CROSSMAZE/CRYPTO KING** Words
- G308 **INTERLOCK (AMOS)** 25 levels
- G309 **TANK ATTACK & MOUTHMAN**
- G311 **THRALLBOUND** Viking Adv Text
- G312 **BOUNCE AND BLAST** Platform
- G313 **SOCCER CARDS** Run the club
- G314 **CYBERNETIX** Fast action
- G315 **STAR MIX 2** 3 games
- G316 **FLAG CATCHER** Squares puzz
- G317 **OMEGA** Adv Moria type
- G318 **TOP SECRET** Excellent graphics platform
- G319 **MADONNA** Jigsaw
- G320 **ROBOCOP GOES TO IRAQ** sea
- G321 **BACK TO THE FUTURE III** Funny
- G322 **45 CHEATS** Codes etc
- G323 **TOMCAT** F15 shoot 'em up
- G324 **SUPER QUIZ**
- G325 **POWER PONG** Boing
- G326 **MAHJONG** Tiles
- G327 **NESTER** Cards
- G328 **STARFLEET** Shoot 'em up
- G329 **EXCALIBER** Shoot 'em up
- G330 **IMPERIUM ROMANIUM** Battle
- G331 **SQUAMBLE** Very Spacey!!
- G332 **JETMAN** Good shoot em up
- G333 **MECHFORCE v 3.71** Latest update
- G334 **PROPERTY MARKET GAME** Strategy
- G335 **ROLL ON & LAMER** Pushing
- G336 **HACKLITE v 1.0** Moria & Hack
- G337 **HELLATIANS** S.E.U. game
- G338 **DIE FILTH** (2) Brill like Swiv
- G339 **ULTIMATE HINT KIT v1.0**
- G340 **THE ACE CHEATS DISK 2** Lots
- G341 **BATTLE OF BRITAIN** Strategy
- G342 **THE SECRET OF MONKEY ISLAND** A must
- G343 **WAGGLE-AWAY** Help with games
- G344 **ESCAPE II** Creating games
- G345 **QUIZMASTER v 1.0** Test your knowledge
- G346 **NEBULA** Shoot-em-up fast action!
- G347 **ESCAPE** Into space!
- G348 **RUMMY** Excellent card game
- G349 **SPACE RESCUE** Super shoot 'em up
- G350 **INVADERS MARK II** Space invaders
- G371 **ERIC THE WARRIOR** Sim to Gauntlet
- G372 **KLAKTRIS** Tris type game
- G373 **CLI-TRIS** Latest TRIS
- G374 **DELUXE PACMAN**
- G375 **GALAGA 92** Shoot-em-up
- G376 **LIBERATOR GAME** Shoot-em-up
- G377 **ACK-ACK**
- G378 **CRAZY SUE 2** Latest platform
- G379 **TRACON II** (2) Air traffic sim
- G380 **LAST REFUGE** Invaders
- G381 **ZINGGER GAME** Karate game
- G382 **UCHESS** (AGA – A1200/A4000 ONLY) Chess game (req 4Mb RAM)
- G383 **THE NIRVANA GAME** Platform speccy type
- G385 **MORIA v5.4** Latest
- G386 **FRUIT MACHINE II** AMOS good
- G387 **OBLIVION** Defenda clone
- G388 **BOMB JACKY** Platform
- G390 **OTHELLO** Board game classic
- G391 **SOLITAIRE SAMPLER** Cards
- G392 **WILLY IN THE CASTLE** Excellent platform
- G393 **FRUIT SALAD** Platform. Reviewed in Format
- G394 **MARIO IN WONDERLAND** Brill clone – Mega!
- G395 **AGA TETRIS A1200** Magic!
- G396 **GIDDY** Great new platform game
- G397 **ZALYCON** (2 disks) Shoot 'em up
- G398 **ATOMS** Weird!

BOULDERDASH

Please note all titles run on A500
To run games on A500+/A600/A1200
Use KICK 1.3 Degrader (E400)

- BD 1 - FLASCHBIER I
- BD 2 - FLASCHBIER II
- BD 3 - BOULDERDASH COLLECTION I
- BD 4 - BOULDERDASH COLLECTION II
- BD 5 - BOULDERDASH COLLECTION III
- BD 6 - BOULDERDASH COMPILATION 1/2/3/4/+ Construction Kit
- BD 7 - EMERALD EAT MINE
- BD 8 - EMERALD MINE TOOLS EDITOR v 4 (2 disks)
- BD 9 - EMERALD MINES CAVE EDITOR
- BD 10 - EMERALD PRO
- BD 11 - EMERALD PRO 3
- BD 12 - EMERALD PRO 4
- BD 13 - EMERALD PRO 4 EXTRA
- BD 14 - LAZERS EMERALD MINE 2
- BD 15 - EMERALD MINES TUTORIAL - 2nd Part
- BD 16 - EMERALD MINES 2
- BD 17 - EMERALD MINES 3
- BD 18 - EMERALD MINES 4
- BD 19 - EMERALD MINES 10
- BD 20 - EMERALD MINES 11
- BD 21 - EMERALD MINES 12
- BD 22 - EMERALD MINES 13
- BD 23 - EMERALD MINES 14
- BD 24 - EMERALD MINES 15
- BD 25 - EMERALD MINES 18
- BD 26 - SUPER EMERALD MINE
- BD 27 - EMERALD RUNNER MINE 1
- BD 28 - EMERALD RUNNER MINE 2
- BD 29 - EMERALD EATER
- BD 30 - THE NEW EMERALD MINES
- BD 31 - RECYCLED EMERALD MINES 1
- BD 32 - RECYCLED EMERALD MINES 2
- BD 33 - EMERALD HEAD
- BD 34 - DANMARK II
- BD 35 - MARATHON MINES 1
- BD 36 - MARATHON MINES 2
- BD 37 - MARATHON MINES 3
- BD 38 - BOND MINES 1
- BD 39 - BOND MINES 6
- BD 40 - RUPPLE MINES
- BD 41 - EASY RUPPLE MINES
- BD 42 - RUPPLE MINES EDITOR
- BD 43 - WATER MINES
- BD 44 - ADVENTURES OF MR B - Part 2
- BD 45 - EAT MINES 1
- BD 46 - EAT MINES 2
- BD 47 - EAT MINES 3
- BD 48 - EAT MINES 10
- BD 49 - NO ONE MINES 1
- BD 50 - NO ONE MINES 2
- BD 51 - NO ONE MINES 3
- BD 52 - NO ONE MINES 5
- BD 53 - NO ONE MINES 6
- BD 54 - NO ONE MINES 7
- BD 55 - NO ONE MINES 8
- BD 56 - NO ONE MINES 9
- BD 57 - NO ONE MINES 10
- BD 58 - SPUD MINES 3
- BD 59 - ENEMY MINES
- BD 60 - BOBBYDASH
- BD 61 - DENMINE 1
- BD 62 - LADYBIRD MINE - KIDS
- BD 63 - INTO THE FUTURE FIELDS
- BD 64 - INTO THE FRUSTY FIELDS
- BD 65 - INTO THE COLD CAVES
- BD 66 - LABAN MINE
- BD 67 - FUN MINE 1
- BD 68 - ACE MINE 1
- BD 69 - SUPER AMIDASH
- BD 70 - ROCKNUTS 1
- BD 71 - ROCKNUTS 2
- BD 72 - BOULDERDASH C64
- BD 73 - PROFESSIONAL BOULDERDASH 1
- BD 74 - PROFESSIONAL BOULDERDASH 2
- BD 75 - FIRST CLASS BOULDERDASH
- BD 76 - BOULDERDASH CONSTRUCTION KIT
- BD 77 - OFFICIAL BOULDERDASH
- BD 78 - MEGA BOULDERDASH
- BD 79 - STONEAGE
- BD 79A- STONEAGE (PLUS COMPATIBLE)
- BD 80 - LITTLE BOULDER
- BD 81 - BOULDERS GROVE/B G EDITOR (ASI 50)
- BD 82 - CAVE RUNNER

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- ASI 4 Frogger Go Moku, Cracker Jumpy etc.
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- ASI 6 Pacman, Downhillchallenge, Wellris etc.
- ASI 7 Moonbase, Trix, Nightworks, Clasterunner.
- ASI 8 Anaos2, Hball, Snakepit & Numberfumbler.
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- ASI 11 Dad, Connex, Reversi Towers & Trippin.
- ASI 12 Llamatron, Car, Powerpong XR Fab.
- ASI 13 Twintris, Squamble, Block it, Ball etc.
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- ASI 17 Tomcat, Defenda, Jetman Bugblaster.
- ASI 18 Henry in Panic Skyflyer Omega race!
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- ASI 20 Microbes Hollywood trivia Coin drop.
- ASI 21 Zeus Tetrix Battlements & Dragonflies.
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- ASI 24 Revenge of camels Dux Croak 3Dmaze etc.
- ASI 25 Mr Brick, Copper, Hemmeroids, E-Type.
- ASI 26 Superpacman 92 Smash TV Ashido System 4 etc.
- ASI 27 Addictive card games. Really good.
- ASI 28 Doody, Dr Mario, Invaders 2, Madbomber2.
- ASI 29 DOG, Rome, Nova, B-Bal, Atax, Quadrix.
- ASI 30 Bounce & Blast, Total Fire Tank Attack.
- ASI 31 Araznaz, Crazy pipe, revolution etc.
- ASI 32 Blob, Sector one & Firefighter.
- ASI 33 Hyperball & Wari 2 good games.
- ASI 34 Trailblazer, Yelp, Qbic Rushour.
- ASI 35 Poing, Snakepit, Cybernetix Jump n roll.
- ASI 36 Mother lode, Wonderland, Kong Taptix.
- ASI 37 Klaktris, Ghostship, Paccer etc.
- ASI 38 One on One, Baldy, Skyflyer2, Transplant.
- ASI 39 Lots of card games on this disk.
- ASI 40 Disk full of sliding puzzle games.
- ASI 41 Pacman deluxe, Hellzone Leap II etc.
- ASI 42 Galaga, Intruder alert Dogs in space.
- ASI 43 Interlock Roulette Octothello etc.
- ASI 44 Nibbler, Mouse Impossible Roll on etc.
- ASI 45 Dtris, Paccheese, B-Castle, Teserae etc.
- ASI 46 Amiga Q, Qty, Checkers, Ouch etc.
- ASI 47 Elevation, Furnyre, Crave, Arena.
- ASI 48 Point to point, Psycho santa etc.
- ASI 49 Deathbringer n space Sue 1+2 etc.
- ASI 50 Euphorion, Roach Motel, Balders grove.
- ASI 51 Lamers, Fighting Warrior Shapes.
- ASI 52 Rockslide, Mouthman, & Nu.
- ASI 53 Venus Invaders, Mastermind etc.
- ASI 54 Serene, Serene II & Car Wars.
- ASI 55 Cli-tris, Pacatac & Asteroids.
- ASI 56 Stormeagle, Extreme Violence & Tiles.
- ASI 57 Poo-poo Dominoes Dizzy Diamonds Squirm.
- ASI 58 Super raid 4 Magnatron & Malessae.
- ASI 59 Turbo thrust GX200 & Leedings.
- ASI 60 Pipe Master2 Alien Hunter & Checkers.
- ASI 61 Rattlesnake Running Chaser Soud Blaster.
- ASI 62 Pipeline 2 Mazeman & Up and Down.
- ASI 63 Nautilus Frenzy & Drive it!.
- ASI 64 Oblivion (fab!) Breakout Con Kit etc.
- ASI 65 Paranoids Chess Word Puzzle Word search.
- ASI 66 Cow wars As mastermind & Asokaban.
- ASI 67 Siege of the Beast, E Type II & Vektor.
- ASI 68 Demolition Mission, Bounder & Atoms.
- ASI 69 Klondike, Celestial Apoker Bridge etc.
- ASI 70 Digital Tetris, Wangle & Tetris pro.
- ASI 71 Numerix, Battleships & Vs Tanks.
- ASI 72 Escape pra. Boulderdash (not 1200) Cart.
- ASI 73 Lewess, Concentration & Challenger.
- ASI 74 Crazy pipes II, Bombjacky & Chute.
- ASI 75 Double-squares Colours & Diamond thief.
- ASI 76 Gnu Chess, Cubus & Gerb.
- ASI 77 Balloonacy, Cliff Hanger & Descender.
- ASI 78 Little Boulder, Headgames, Fruit Panic.
- ASI 79 Grav Attack, Vektor Storm, Atoms.
- ASI 80 Army Miner, Flip-it, Golf, W. Solitaire, The Gallows, Wots its Name.
- ASI 81 Amos Defence, Thunder Tron, Gargundula.
- ASI 82 Artilleros, Shufflerun, Arcade Volleyball.
- ASI 83 Loads-a-money, Pong, Spider.
- ASI 84 Enigma, Atishoo, Zerberk.
- ASI 85 Paradox Preview, Matchcards, Rubic, Bagit Man.
- ASI 86 Smarthunt, Lord of Hosts, Legend of Lothian.
- ASI 87 Aztec Challenge, Jonas Full Strand, Landmines.
- ASI 88 Defenda, Relayer, Moziac.
- ASI 89 Megaball II, X-Fire, Cluedo.
- ASI 90 Flaschbier, Startans, Minefield.

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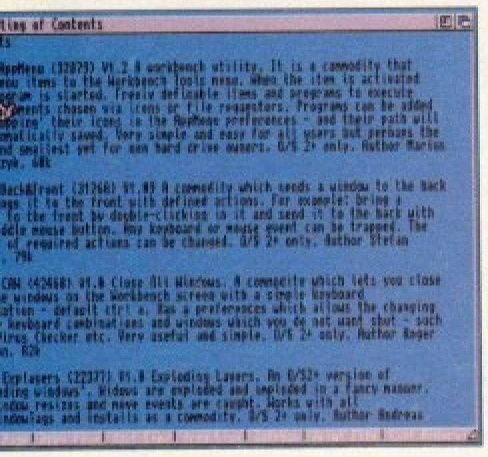
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There is a comprehensive contents file detailing each program in Workbench 2 Utilities 2

A varied selection of high quality freebies and cheapies come under the microscope in the most up-front PD column around. Phil Morse tears open your Jiffy bags...

PUBLIC SECTOR

Workbench Utilities 2

Kew II, U1053

A well presented suite of utilities, which open with a window displaying neatly and clearly the contents of the entire disk. Each utility has its own doc file, and there's a list of contents which includes a well-written, short description of each utility, along with useful information such as the amount of memory the utility occupies and its level of compatibility as regards different Workbench variants and machine models.

One of the more useful programs from this disk is AppMenu, which from its title will be familiar to anyone who's used an Apple Macintosh before.

Using AppMenu, the names of any programs you wish can be added to the Tools menu on Workbench, and when selected from this menu, the aforesaid program(s) will run – just like the same thing using the App(le) Menu on the Macintosh.

To use a program in this manner, all the user need do is drop its icon into the AppMenu folder; paths are remembered automatically.

As well as this useful utility (it's great for accessing a calculator or address book from your favourite wordprocessor or spreadsheet, for instance, or to cut into, say, a sample editor from your sequencer) there are a host of other interesting programs.

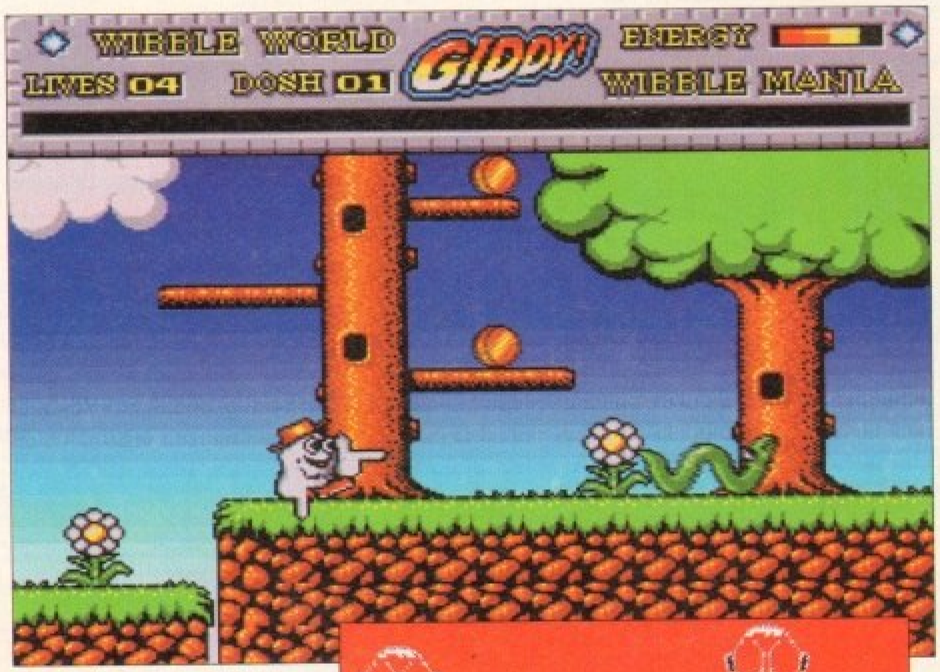
One little routine entitled Close All Windows allows you to define a hotkey to do just that – if you've ever clicked half a dozen times in order to tidy up your Workbench, you'll see the value in a utility such as this.

Another item of interest is Mouse Shift, as program invented for those who write a lot with a wordprocessor. This neat little number converts the right-hand mouse button into a Shift key, allowing the user to use it for multi-selection of text/items instead of keeping one hand on the keyboard's Shift while moving the mouse to do the highlighting.

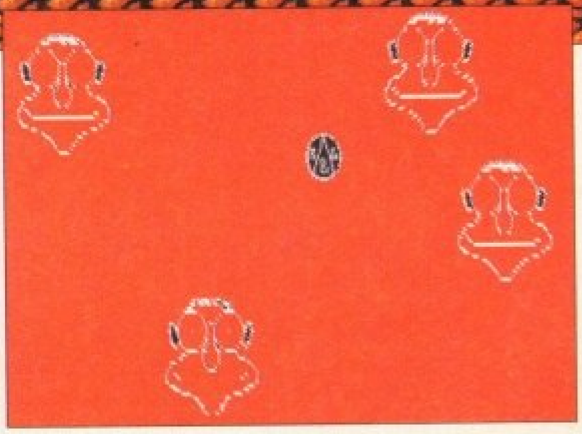
It's a simple idea, but it works without fuss and would be a genuine time-saver for the word-crunching junkie.

From the sublime to the ridiculous now. PrintManager is a print spooler designed to work with every printing device going, whether it attaches to the serial or the parallel port; and Exploding Windows is a decorative program which makes Workbench windows "explode" in a fancy fashion on opening or closing, a little like some Mac windows.

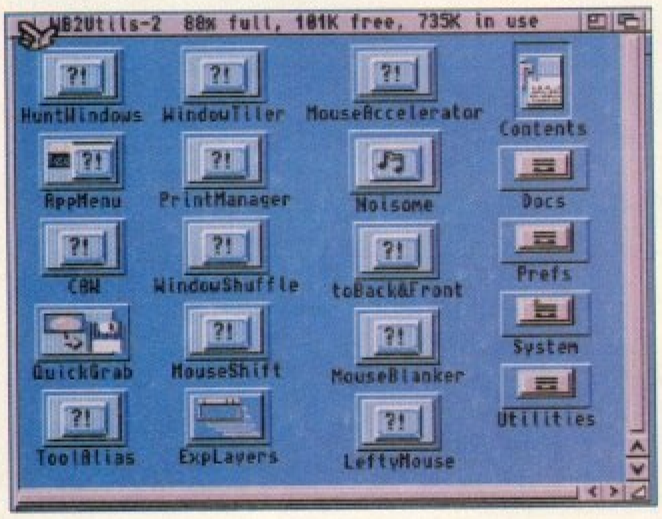
As you might have guessed, this is one of the best utility disks I've seen in a while, and one which comes highly recommended to Workbench 2 and above readers wishing to give their front-ends a bit of a tweak...



Chunky platforming in Giddy



An Asteroids rip-off in all but the sprites...



The many neatly presented and useful utilities on Workbench 2 Utilities 2

Assassins Games 94

Roberta Smith PD

The latest in a long line of credible PD game releases, this latest compilation from Assassins brings three games, two of which are new to this page.

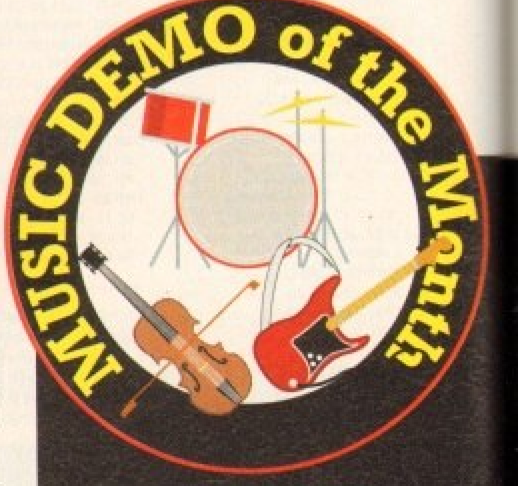
Giddy is a typical PD platforming affair, featuring cute and highly colourful graphics, unfeasibly blocky animation and your usual Amos-style speed of play – not very fast, in other words.

It's a little (all right, very) derivative, but it's nicely done, and it has got that "one more time" factor. Still, how many more platformers such as this can we take?

The next game, Mechanoids, is a curious beast indeed. Boldly "dedicated to the good people of Arizona", it's basically a complete rip-off of Asteroids (I think the author prefers to call it a "tribute"...) which runs in Interlace and, as far as I can tell, is uncannily like the real thing.

Except, that is, that the author has redrawn the asteroids and ship, thereby personalising it while at the same time adding some kind of dubious justification for such a large-scale rip-off..

So the algorithms, gameplay and peripheries are identical to Asteroids, but



Dance Classics 3

Andrew McEniry

The other two disks in this series were extremely well done, and this is no exception, hence its claim to the top Amiga music accolade merely minutes after I got my sweaty paws on it.

As usual the disk contains three pieces of music, and is presented neatly and stylishly.

Eschewing any kind of screen animation (the author wisely knows where his strengths lie, or where his memory does, at least!) for simple but attractive stills,

the sprites are unique to this version – something which you forget very quickly as you battle to finish the first, highly authentic-feeling sheet.

One tip, though; get yourself a monitor which can handle Productivity mode, or you'll be saucer-eyed from watching what is effectively a strobe light as your monitor/TV flickers trying to display more than it can handle. Not good for the eyes...

The final game, the previously reviewed Super Skoda Challenge, completes another interesting Assassins release.

Calling all PD libraries...

...and individuals with anything remotely worth my while having a peek at. If you want something released as PD, or you're a library with stacks of hot new stuff that you haven't seen reviewed in these pages yet, why not drop me a line with a copy, full documentation and everything clearly labelled? I promise I'll at least look at your work.

From music to education, business to utilities – anything you felt deserved your shoving onto a floppy disk, lemme at it and I'll do the rest. Address?

Phil Morse, PD submissions, Amiga Computing
Europa House, Adlington Park, Macclesfield SK10 4NP

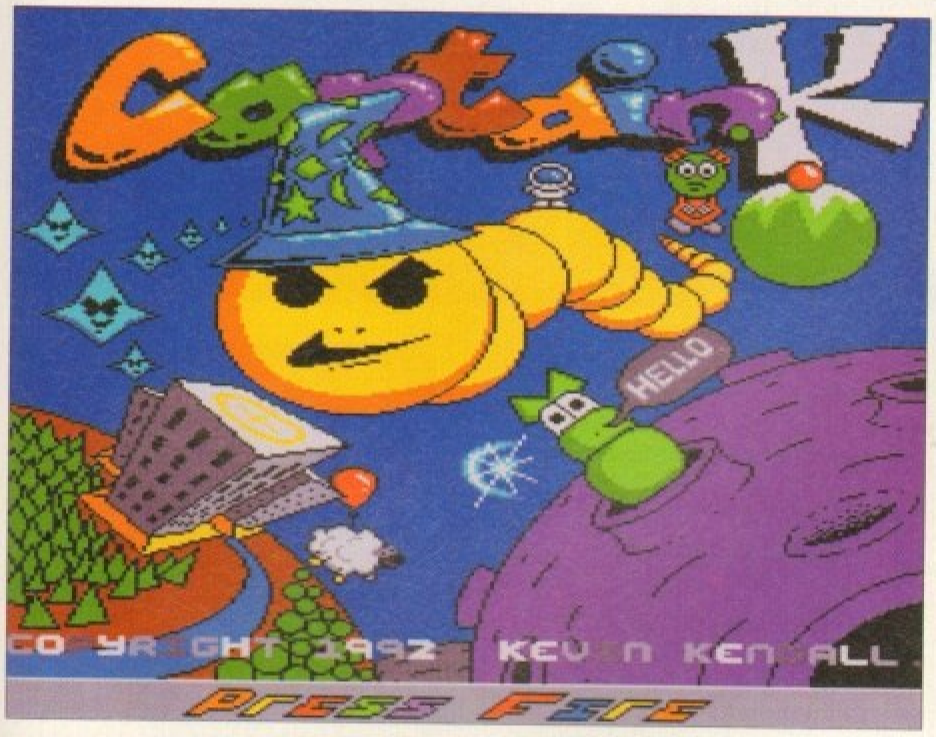
Captain K

CLG30

This is one of those platformers which come with an extremely limp and unlikely scenario. Wrap your head around this: You're Captain K, a peaceful character who is, erm, forced to leave his jungle hide-out due to his learning the devastating knowledge that aliens are invading the earth.

This unlikeliness leads to a platformer that errs on the puzzly side more than the arcadey, and contains the usual PD trappings of lots of colours, disjointed and "unique" sound effects and highly unrealistic animation – cheap and cheerful.

What Captain K is, though, which a lot of similar efforts aren't, is highly addictive; it had us grappling for the joystick long after it should have been put away so that something else could be reviewed.



Can Captain K remember what he's trying to do?

AUGIR

Computer and Design Services

This is a very good idea – a list of bulletin boards, user groups and other contacts of note in places as far apart as the USA, Canada and Europe. Oh, and before you start to feel left out, there's a section for the Rest of the World, too.

It's all arranged in separate folders to make it easy for you to access exactly what you want from Workbench, and is very friendly in its approach, giving small descriptions and a general feel of helpfulness rather that cold authority!

As the authors say, there's nothing else like this, and it's an idea worth supporting, if only to help those unfortunate enough not to live near a large Amiga user base to keep in contact with the outside world.

Put together by a group formed from those disillusioned with the level of support for the Amiga on the enthusiasts' level, this is the kind of shareware/PD-led pursuit which keeps the breads-and-butter user base alive. Worthy of your support.

Amos Karate

R Warner

I can't recall having ever seen a karate simulation before, either full priced or PD/shareware. That being said, some of the fight routines in the more arcadey platformers bear a lot in common with this, but here we have a game based entirely on such fight sequences...

The karate takes place on a log, which has fallen over a stretch of water contain-

➤

Virus alert!

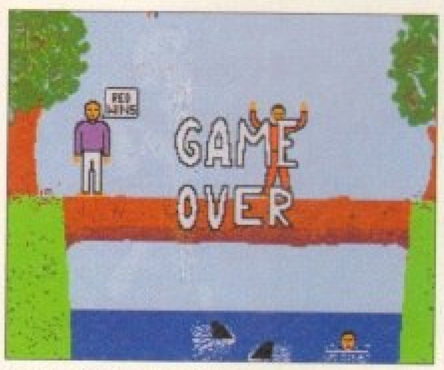
After nearly having a nervous breakdown thanks to the presence of a nasty virus alongside the pictures and words for this very article on my hard drive, I feel obliged to give some timely advice.

I was lucky in having a lot of highly knowledgeable people to help me rid my Amiga of its unwanted infection. You mightn't be so fortunate. Either way, it makes great sense to make sure you have a good virus killer and keep it updated.

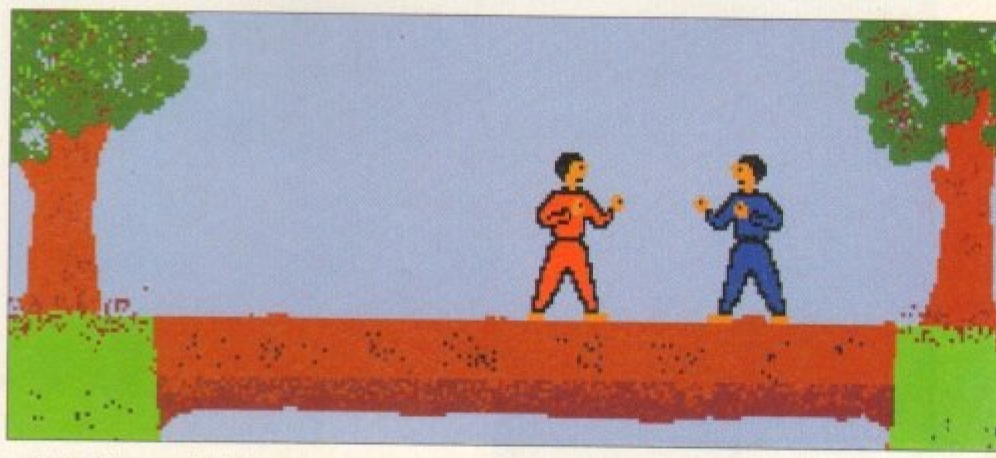
A virus killer will check every disk the second it slots into your machine. It's not failsafe, but update it regularly and it's the best defence going against the crippling little blighters.

And if you still think "it'll never happen to me", I came across two viruses while sifting through disks for review for the very feature you're reading now, so believe me, they're still alive and spreading. PD fans are particularly at risk, for a virus can copy itself to a PD floppy without the distributor ever knowing – although the larger the PD house you buy from, the less likely that a virus will have slipped through the net.

You'll only have yourself to blame if you get caught out.



Defeated fair and square...

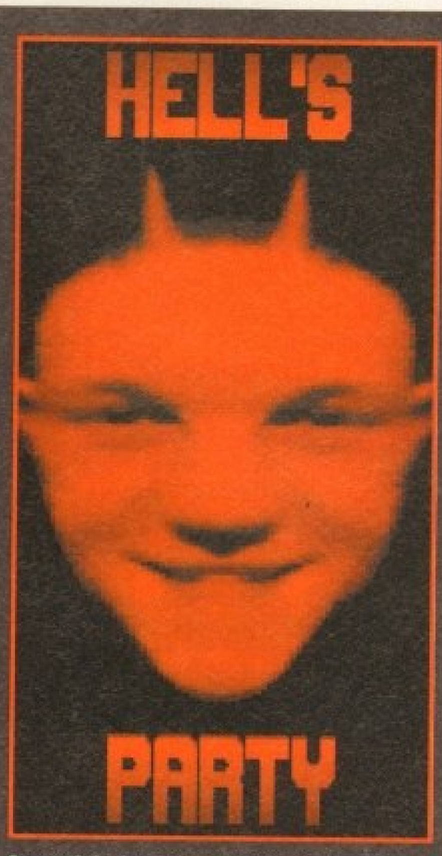


...but he still comes back for more

these mixes are faithful in feel to the original tunes, but the subtle remixing and rejigging adds the life to them which justifies the sometimes rather mystifying reasoning behind rejigging music and releasing it on floppy format.

Contained within are How's Gee, a slab of pure funk madness from a couple of years back coming to you courtesy of Black Machine, which had a friend of mine babbling at hyperspeed about how he'd pay *serious* money to own an original copy; the mad disco sound of Hell's Party by Glam, thankfully still resplendent with far-from-immortal line: "If there's Hell below, we're all gonna' go..."; and possibly the most innovative dance record of last year (certainly one of the most danced to) in TC1992's Funky Guitar – all skippy breakbeats and see-saw guitar riffs designed to get even the most lead-like feet at least tapping.

Sounding (rather unfathomably) a little quiet and muffled on my machine, this disk is nevertheless up to the author's usual high standard, and comes with my strong recommendation.



Some of the best dance remixes in the PD

Brain Snatcher

Roberta Smith

ART of the Month

This is a nicely presented, outrageously sick but ultimately credible demo charting the tragic existence of one Oscar, the baby with the saddest life history going.

After contracting almost every cranium-related disease known to man and living (and he lives through some corkers, I can tell you), Oscar's brain simply grows and grows, and he gets brighter and brighter. The only visible sign of his catalogue of unfortunate and highly coincidental medical history is his oversized head.

Being a normal kid underneath, he joins a rock band as a bassist, and this is an excuse for some very well done and amusing "on-stage" footage.

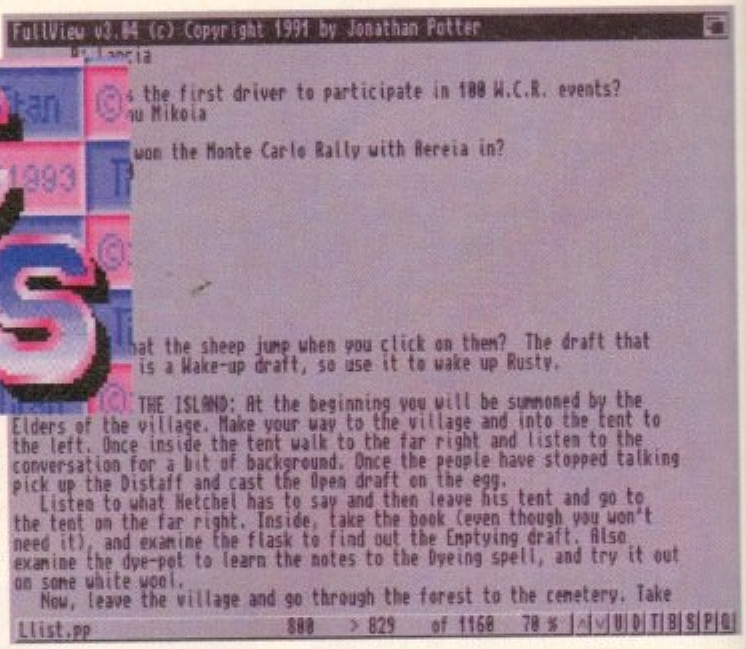
Poor Oscar's enemies have designs on him which are highly incompatible with his pending rock career, however, and he ends up in an alien space ship, miles away from home, accompanied by the, um, essences of Hitler, Galileo, Newton, Einstein and more luminaries from our intellectual (in some of their cases) history. Intrigued?

This is an original, fun and heart-warming (sort of) demo, although don't order it unless you can stand a healthy bit of gore! Recommended.



"I think I'm having an out of body experience..."





Every cheat you could possibly imagine on one disk!

ing two circling sharks. Mmmm, it was never a fight to the death at the local leisure centre when I was a nipper, that's for sure.

Before you start, you get the chance to select what belt (proficiency level) the computer is to have, thereby defining the quality of your opposition.

Scoring is by a tug-o'-war-style method, whereby a bar is displayed with a marker which moves towards your end of the bar if you're winning and vice versa.



After a while you see limitations in the moves and strategies available to you, but having said that there's some pretty spectacular coding going on which belies the simple look of the whole thing.

So it is that you can jump, crouch, kick, punch and do that really good, Sonic-style backflip/roll, catapulting you from one end of the screen to another in record time.

With the option of replacing the computer with another human opponent, this is the best fighting game I've come across in the public domain for a long time.

Titanic Cheats v1.4

The Middle Men

This is a real labour of love, containing a massive A to Z directory of hundreds of games, many I know you'll have and even more I could guarantee you've forgotten about. Under each game are listed whatever tips, cheats and short-cuts are available to the compilers, and it's the kind of information that's guaranteed to have you digging out old, forgotten games where you've been unable to get past a certain point for months or years!

The only problem is, of course, that you really need another Amiga to look at your cheats on while you play the games on the first one, but that would really be asking for too much.

The author updates his list regularly, and there's even a selectable form on the disk which you print out and fill in to let him know of any cheats you've come across, and to obtain updates yourself. One for those who take their games-playing seriously.

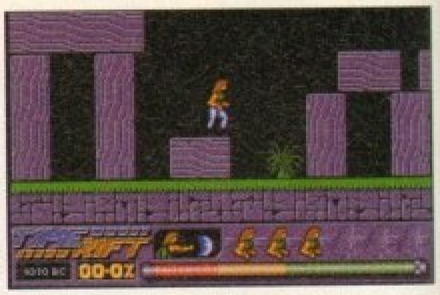
Time Rift

CLG28

Another platformer, but this one positively demands review due to the absolutely amazing animation of the main character.

It's a slick, well presented, stylish game anyway, but when you see your sprite walking, climbing, jumping and crawling you realise how much work has gone into what must be the most realistically animated character in a PD game ever.

I'm hesitant to mention Flashback, due to the huge price difference between the two and the absurdity of comparing Amiga PD with a full-priced, frontier-breaking masterpiece, but there are definite parallels to be drawn between the presentation of the main characters of both of these games. The rest of the sprites are pretty simple, but nevertheless they add up to a hard and challenging platformer. One to see.



The best animated main sprite I've seen anywhere for a long time in Time Rift

Contact addresses

Computer and Design Services, Dept PD, 24 Blackmoor Croft, Tile Cross, Birmingham B33 OPE

Kew II, PO Box 672, South Croydon CR2 9YS

Andrew McEniry, 9 Leyton Cross Road, Wilmington, Dartford DA2 7AP

17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield WF1 1DH

Roberta Smith PD, 190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE

R Warner, The Middle Men PO Box 8253 Allenstown 4700 Australia

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I'm over the moon Brian, it's...

GAMER



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Gamer GLOBE

Amiga Computing's review team report on the games scene and goodies yet to come

Domark in pole position

Domark have just released details of their next game F1. In a major deal with Fuji Television Network Inc, Domark have secured the rights to publish a series of official Formula One games for the '93 and '94 F1 seasons across all major games formats including the ST.

Domark's Managing Director Mark Strachan commented on the deal: "This is the most important title Domark has ever published.

"The game's a winner on all counts – the licence is unbeatable, the program is superb and we will use all of our development and marketing expertise to ensure that F1 is our biggest ever hit."

"F1 is so fast that even Damon Hill in a hurry will have trouble keeping up with it!" he said.

In addition to the blistering pace, the game will have a wide range of set-up options including wing settings, gear boxes, tyres and much more. F1 also allows its players to compete in an entire world championship campaign where you will have to master the world's toughest Grand Prix tracks.

It has been in research for almost two years and has been thoroughly tested by professional drivers to help capture the excitement and detail of the real thing.

Developed by the makers of Vroom, it will be officially launched at the British Grand Prix, held at Silverstone. The game will be available in the shops in September for £25.99.

Titus in the fast lane



Cast your mind back to last year and you'll remember the abundance of car racing games. One which shone like a bright light out of an otherwise pretty dull pack was Crazy Cars 3 from Titus.

Crazy Cars 3 was a firm office fave, but it did lack a two-player mode. Well all that can now be put to rights with Titus' next release, Lamborghini American Challenge.

Titus own the exclusive rights to the Lamborghini licence and to cut a long story short they have rewritten Crazy Cars 3 and improved it ten-fold including the much wanted two-player mode.

This time you are at the wheel of a fabled Lamborghini Diablo as you speed through the crazy world of Saturday Night Races. The tournament is composed of illegal races across 60 routes of American highways.

There are plenty of features such as the ability to buy options for your car like turbo boosts and radar detectors. The competition is tough: Not only are the police out to nick you, but each race includes 20 artificially intelligent competitors. Lamborghini American Challenge is looking good and will cost £25.99 when it arrives at your local computer game emporium in early October.



No Campaign, no gain...

Empire are just about ready to release the Campaign mission disk, the latest addition to this incredibly popular warfare simulation. The demand for Campaign has proved overwhelming with an amazing eight-month stand in the Gallup Charts to date. Empire say that sales are going from strength to strength.

The mission disk is a must for all Campaign enthusiasts and brings you yet another 25 maps covering most of the major land conflicts of the Second World War.

The highly detailed and exciting missions from Northern Europe to North Africa will challenge your strategic abilities as well as testing your tactical skills.

The Campaign mission disk will available by the time you read this for £15.99 – a bargain and no mistake. Remember, in order to use the disk you must already own the full version of Campaign.

You're gonna touch the sky

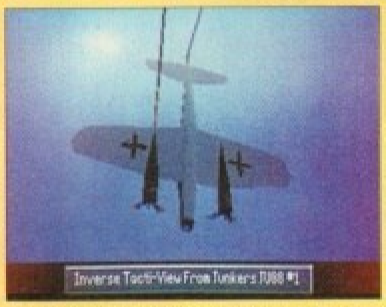


Microprose are back in the skies with yet another flight sim – a flight sim with a difference though. They've been tinkering around and come up with a game of air-to-air combat, or dog fighting as it is more commonly known.

The game is entitled Dogfight and the player will be able to select from 12 different aeroplanes, ranging from your good old Sopwith Camel through to the modern day fighter jets such as a F-16A Fighting Falcon. Whichever aircraft you choose you will be able to duel with enemy aircraft from the same era. Alternatively you can choose any aeroplane from any era to battle it out with.

This will enable you to engage in some pretty good dogfights. For example you could have the agility of early Second World War planes such as the Spitfire against the high technology of the modern jets such as a Harrier.

Dogfight is not only a dogfighting flight sim, it also gives the opportunity to fly realistic missions, like defending the skies from the infamous Red Baron or protecting the Falklands from the Argentinian air force.



Those of you who fancy a flight sim game but are completely useless at them will take pleasure in the fact that Dogfight has been designed with the beginner in mind enabling those less-er flight buffs to enjoy it within minutes of loading.





Dogfight will be released later in the year for the Amiga and at the time of going to press, prices and exact dates are yet to be confirmed. Our only advice is for you to keep watching the skies because Microprose are out to prove that they are the flight sim kings.

Microprose fly to the moon

Microprose are aiming their sights a lot higher than just the skies for their next product. Starlord is their latest epoch-making game set in space where the object is to become emperor of the galaxy.

The game combines sci-fi with combat in a universe where Starlords are ranked in five levels of seniority, from Lord, Earl, Duke and King to your final objective, Emperor. Your task is formidable one with one thousand stars to conquer.

As Starlord you have to call upon the junior ranking Starlords to serve you in battle or provide you with money or other assets. Each Starlord has his own personality, characteristics and traits which are governed by genes generated by the computer.

Thus some are aggressive, some greedy, some unselfish and so on. Part of the gameplay involves working out how each individual is likely to behave. Skill is also required to plan battles, strategy and even marriage as you aim towards your ultimate target.

The game contains a mixture of pace, excitement, energy and strategy all of its own which adds up to some exciting entertainment. Well, that's what the press release says; we'll find out whether it's true when it arrives later in the year.

Grandslam's grandslam

After the success of Nick Faldo's Golf and Beavers, Grandslam are once more infiltrating the Amiga games world with more than a couple of stunners this autumn. Grandslam have four releases planned, but precise release dates are yet to be announced.


Realms of Darkness

Realms of Darkness is billed as the role-playing game for those people who hate role-playing games! The game features a hero who leaves the safety of his sheltered home and travels the land, a lonely figure with the whole world against him. Aww. What all this means I don't know, but we'll find out soon enough.

Realms features a "mutilating" landscape, beautiful graphics, an atmospheric soundtrack, arcade adventure sections with devious puzzles and promises hundreds of hours of intense challenge and entertainment.

Tensai looks like a platform/beat-'em-up/arcade adventure and features Tensai, the hero of the game, battling against the evil tyrant Arashi. It features stylish graphics set in a post-apocalyptic landscape and beautifully animated characters and monsters.


Realms of Darkness

There are plenty of logical puzzles to solve while admiring the realistic sampled sound effects and eight-way scrolling parallax backdrops.

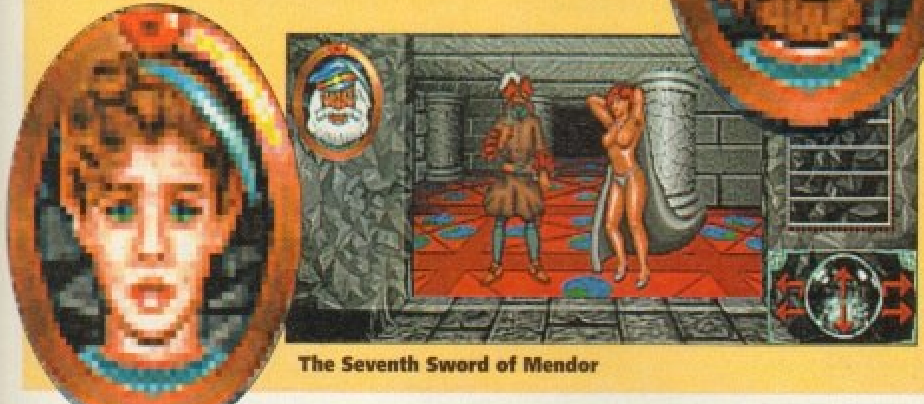
Tensai is looking very nice indeed and will feature in these pages very soon. Meanwhile, two other releases from Grandslam are Reunion and The Seventh Sword of Mendor.

Reunion promises to be a strategy adventure game set in space where you must take the role of soldier, politician, economist and diplomat. Seventh Sword is yet another adventure game where you have a complete 3D world to explore. The game uses the friendly "point and click" control interface and features real-time combat sequences. For the A1200, a special 256-colour enhanced version is promised. As you can see, Grandslam are working double overtime at the moment and all the games are looking impressive.

Expect previews and reviews in *Gamer* very soon.


Tensai




The Seventh Sword of Mendor

Boom time!

Last year there was a game called Nicky Boom which, despite the highly humorous title, was quite good. Paul Roundell (ex-*Gamer* ed) fell in love with it and they got married, living happily ever after.

Well, it's time he got a divorce because news of Nicky Boom 2 has just arrived. At the end of the first game peace had returned to the quiet woods. Well peace has quit the scene and brothers in arms evil and danger are back.

Nicky, the star of this addictive little platformer, must once more make his way through the world until his objective of peace throughout the land is achieved. The game includes four graphic worlds of forest, jungle, volcano and cloud.

There are more puzzles, traps and animation than in the original. Nicky Boom 2 will cost you £25.99 and is planned for release on August 26. There's precision for you!

INNARDS

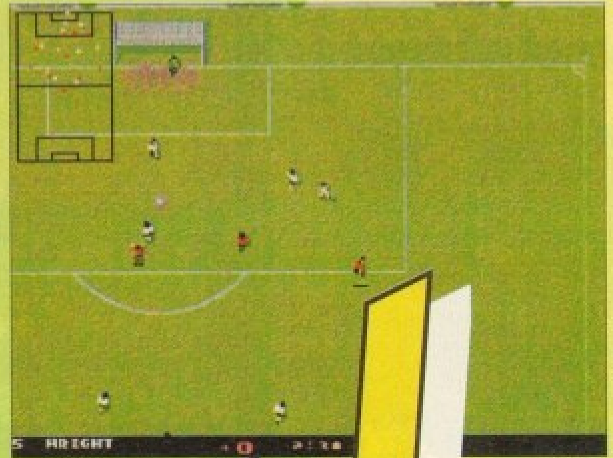
Let's take a look through the round window at...

REVIEWS • REVIEWS • REVIEWS

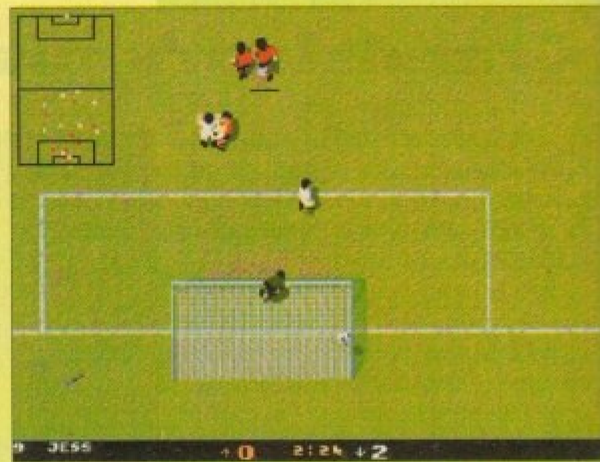
REGULARS • REGULARS • REGULARS



You can play Alex Ferguson, selecting your players and tactics before the match



Spot the ball and win huge cash prizes



In the midst of a goalmouth tussle, the ball finds the back of the net

GOAL!

They think it's all over? Well Goal is here at long last, but will it take its place back on the footy game throne?

Yes, it's finally here. Stop worrying, settle down, make yourself a brew, perhaps treat yourself to a choccie biccy or two and read on. Let me cast your mind back by more than a few years and remember the game that was Kick Off.

Kick Off was a revolutionary product, and every man and his pet whippet loved it. I remember that fateful day when I first played it. There I was – and as I recall it was a Wednesday morning – and unfortunately I was bed-ridden thanks to a flu-bug flying around.

I had mail ordered Kick Off and as if by magic the postie arrived that fateful morn and guess what popped through the letter-box?

Yep, all thoughts of flu rapidly disappeared as I slapped the disk in the drive. Not only had I got the day off school, the world's greatest football game had just landed in my sweaty palms. My luckiest day ever? Yes indeedy.

As many of you know, Kick Off works twice as well if you happen to have an eager chum to play it with. Another heavy dose of luck was the fact that my kid brother had also contracted the dreaded flu, so it was two-player heaven.

As for the game, it was quite simply one of the best I had ever played. You can look back now and it's a different kettle of fish altogether the graphics aren't good and these days even Jimmy Hill could beat the computer 10-0. It had arrived, though, and back then I was the envy of all my friends.

A year or so passed and things were beginning to hot up on the Kick Off front because news had filtered through to every kid's grubby ears, including mine, that a sequel was forthcoming. The sequel did indeed arrive, and to much critical acclaim from the computer game press who heralded it as the best football game for any computer ever.

I naturally ran down to the shops and bought it as soon as it was out and found out that was indeed ten times better than the original. Happy faces all round, but happiest of all was Dino Dini's, the creator of Kick Off 1 and 2. Another year had passed and talk of yet another Kick Off game was surfacing – Kick Off 3.

Everybody who thought Kick Off 2 was the best it could possibly be had to have a re-think. In the meantime people had enjoyed the Kick Off spin-offs such as Player Manager, Kick Off Extra Time, Final Whistle and the super abundance of data disks.

Then just as the rumour of Kick Off 3 was on the verge of being realised, a new, young and pushy football game has forced its way onto the scene. Its name was Sensible Soccer, and that, my friends, is where all the trouble started.

What is now known as the Sensi v Kick Off war erupted and it was so bad that even Kate Adie was reporting from the war zone. There were many casualties, some of which are still too disturbing to talk about.

There were the Kick Off die-hards camped on one side while the Sensible Soccer young bloods were assembling on the other. In the middle there were several youngsters who were just plain confused and didn't know which game to turn to thanks to misinformed friends and hapless games reviewers.

I myself loved both Sensible and Kick Off and I just couldn't choose between the two no matter how I tried. Other people condemned me instantly and said that I must choose one of them and declare it the best.

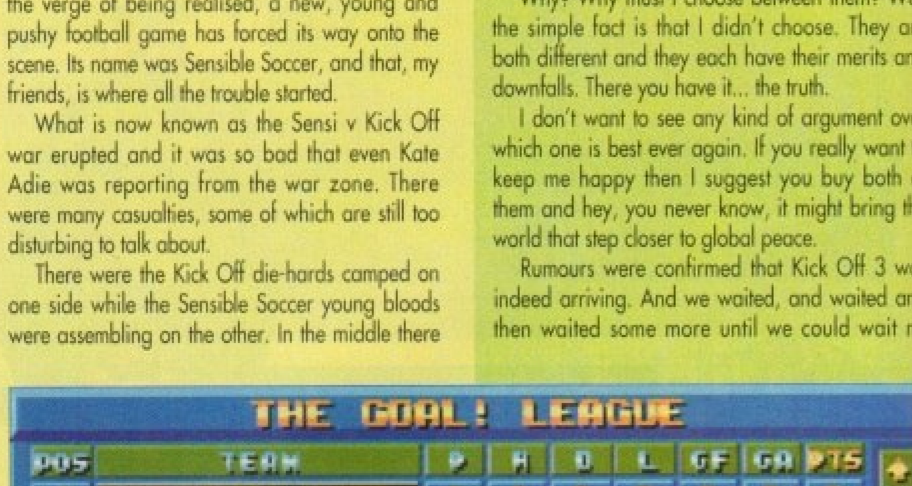
Why? Why must I choose between them? Well the simple fact is that I didn't choose. They are both different and they each have their merits and downfalls. There you have it... the truth.

I don't want to see any kind of argument over which one is best ever again. If you really want to keep me happy then I suggest you buy both of them and hey, you never know, it might bring the world that step closer to global peace.

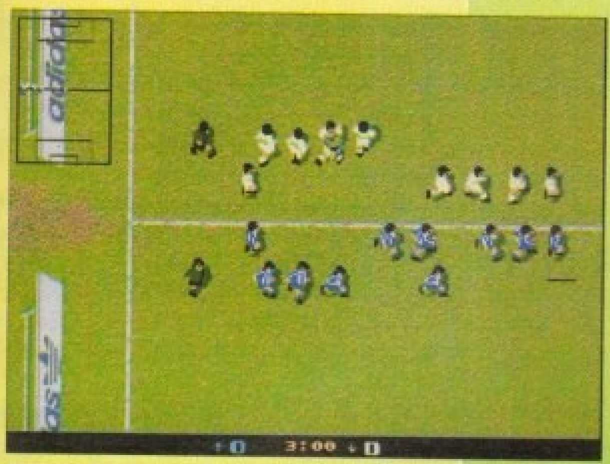
Rumours were confirmed that Kick Off 3 was indeed arriving. And we waited, and waited and then waited some more until we could wait no



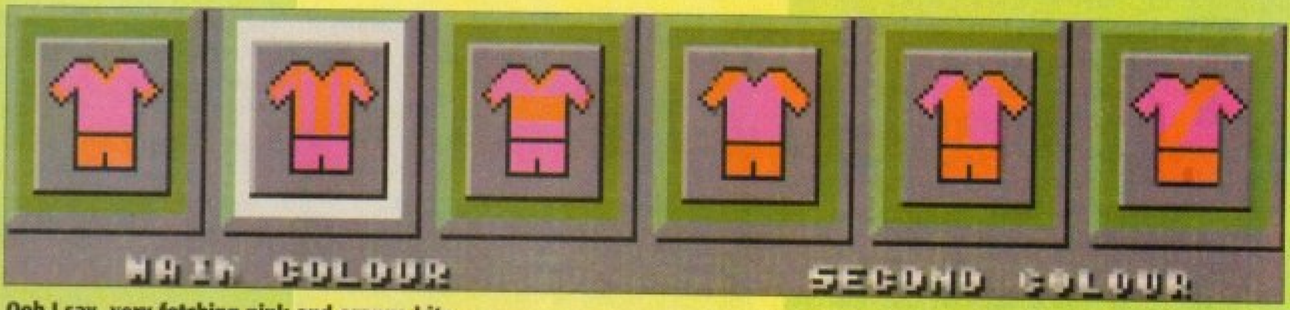
A brutal foul that must surely result in a booking at the very least



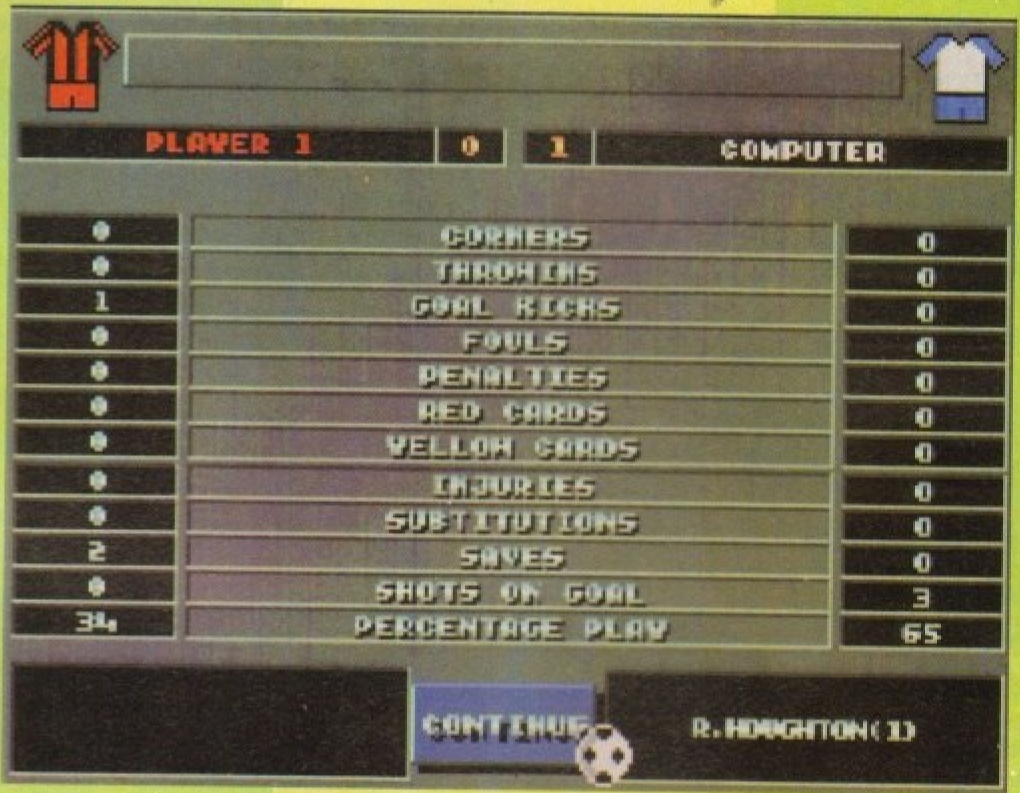
The league mode, and surprise surprise, United are top



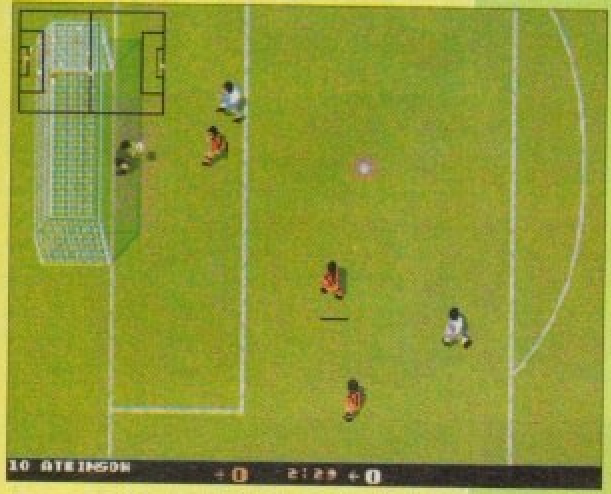
It looks like the early part of one of those Halifax adverts. You know the ones, where lots of people form a giant X



Ooh I say, very fetching pink and orange kits



Embarass your opponent or yourself depending on the scoreline. The match stats tell you just how well – or how badly – you've done



You can play horizontally if you want. It's totally different - you could say it's a whole new ball game

longer. Virgin Games must have got a bit bored waiting as well, so they decided to buy it off the original company and give it the new moniker of Goal.

On the surface Goal, for all intents and purposes, looks identical to its Kick Off predecessors. Let's take a little look under that surface and see what new features we can dig up.

DIFFERENT MODES

First thing you notice is the graphics and the fact that there are three different modes. There is the normal zoomed in view and also a wider zoomed out view, plus the standard setting where the computer swaps between the two views. Zoomed in view is the one you will use the most and the closest to the one used in Kick Off 2.

An interesting feature is the ability to play Goal horizontally rather than vertically. This virtually creates a brand new football game and for us Kick Off die-hards and it takes a bit of getting used to.

Goal's graphics are noticeably better with improved animated players that are positioned in a well-drawn football stadium complete with athletic running track and Adidas sponsorship boards. The goals are also better defined and you get a more realistic feeling of scoring.

The free kicks, corners, goal kicks and throw-ins have also been changed for the better. By moving a dotted line you are able to select the direction, length and height of the ball.

The control system as a whole seems to have changed slightly, but it still keeps the simplicity and playability that was such a feature of Kick Off 2. Obviously it helps to have played its predecessors, but even for the beginner Goal is one of those footy games that takes a minute to play, but a lot longer to master.

Now I could be accused for being really crap, but when you put the computer at the hardest level it's bloody hard to beat it. Four people played the game and all failed miserably, so that means it should also give you a bit of challenge over the months ahead. Unless of course you are all God-like computer games-playing prodigies.

Replays have also been given a new look with the ability to play, stop, rewind and fast forward the action. You can also watch it slow motion if the desire takes you. A new innovation is the introduction of the match report which appears at half and full time.

STATISTICS

You can look at it and it'll tell you how many shots on goal you had, how many saves you made, the number of corners, throw-ins, penalties and how much percentage possession you had. It's very useful for solving those depressing arguments that constantly rage when playing it with a chum or indeed a chum-ess.

There are a few more options, but I haven't simply got the space to explain them all. You'll be able to find out all about them when you buy it, because believe you me if you don't you will be laughed at in the street by small children.

Goal is similar to Kick Off in many ways, yet totally different in others. For instance you do feel as if you're playing a brand new and totally original game, but it still has that feel of Kick Off about it.

The new graphics are a definite improvement over its predecessors and the sound effects have been improved to further enhance the atmosphere of the game.

The playability remains as fast and frantic as usual and the addiction factor is still at a danger level. It's a wonder how any of you lot managed to get your copy of *Gamer* this month because we've had to be physically prised away from our joysticks.

Goal is a classic computer game and I personally would recommend it to everyone, whether they'd be young, old, small, big, large or skinny.

If you are a Sensible Soccer fan then ignore Goal at your peril – you won't know what you're missing. Goal isn't better or worse than Sensible, it's just different... and very, very good.

JONATHAN MADDOCK



There are oodles of teams, including ones from English, French, Italian and German leagues

VISION	GGGGGGGGG
AUDIO	GGGGGGGG
DIFFICULTY	GGGGGGGG
LASTABILITY	GGGGGGGGGG

93%

Goal is a major improvement on the previous Kick Off games. The graphics are cool, the sound is better, the playability is brilliant and you'll be addicted forever. What are you waiting for? Buy it.

Publisher ➤	Virgin Games
Developer ➤	Dini and Dini
Disks ➤	2
Price ➤	£30.99
HD Install ➤	No
Size ➤	1 Meg

THE LOST VIKINGS

By Odin's elbow! It's time to kiss Brunhilda goodbye, clamber aboard your longboat and let out a beserker's bloodcurdling bellow: "Rape and pillage! With the Lost Vikings!"

The Norse culture has always been a great mystery to me. There are elements of their lives that I find bizarre, to say the least. I do speak from experience as well. I have a mate who is half Norwegian and he's an odd kettle of fish. Always running around half naked shouting "elske!" and "toske!".

I mean, let's examine the facts. Vikings were allegedly this bunch of ale swilling, debaucherous, roughneck, sex maniac marauders. OK. We'll take it that that bit's true. Why the hell did they have to sail around the known world to carry out their bawdy hell-raising?

What I'm getting at is, why bother sailing to monasteries to interfere with the monks' tranquillity when they could just as well stay at home with their own womenfolk? Everybody the world over knows the reputation that the nubile Nordic naughties have for beauty.

I guess that this will remain one of the universe's unanswered questions until time immemorial, so with a Kenneth Williams-type "Ooohhh! No matron!", I shall return to the plot.

The Lost Vikings has its origins set in the lands of the midnight sun. Its stars are three Viking brothers, who interestingly enough, are not away raping and pillaging.

Instead, they are home for the much celebrated Autumn festival – which is a bit like Glastonbury with no police, and subsequently much better.

HURDY-GURDY

Anyway, the highlight of this Pagan pastime is the hunt. Here, our three heroes have the chance to excel at their particular skills – which is a good enough reason for the loading screen and also shows Joe Public what our little Scandi-friends are capable of.

However we're not the only ones privy to the Vikings' acts of physical dexterity. For, high above the fjords, intergalactic zoo-keeper and Johnny Morris lookalike Tomator lurks.

Being the villain of the piece, Tomator is on the look out for fresh specimens. Seeing the prowess of our boys, he decides they'd go down a treat in his alien menagerie.

So being a thoroughly nasty piece of work, Tomator proceeds to kidnap the Trondheim trio. Gasp! That's not the plot is it?

Why, yes. Steeped in Norse mythology that one, eh? Well so it's yet another cheesy, silly plot. But before I pass judgement too hastily, let's meet the hurdy-gurdy boys.

The first thing I should say about the chaps is that they're brothers. The fact that they appear to bear no resemblance to one another, apart from full beards and spiky helmets, is beyond me.

The oldest of the trio is Baleog the Fierce. He's 25, fierce and according to the manual has an underwear fetish. Perhaps he should consider changing his name to Baleog the Frilly.

No, seriously. His particular skills lie in the swordsmanship department and he's also quite handy with a bow. He knows no fear, is somewhat of a bighead and likes to flex his muscles – that would explain the underwear! Next from the halls of Valhalla comes Olaf the Stout. Guess what? Olaf's the fatty of the three. He is jovial, fat, steadfast, tubby, and a stalwart in battle with an appetite for adventure almost as large as for a Danish – beer or pastries?

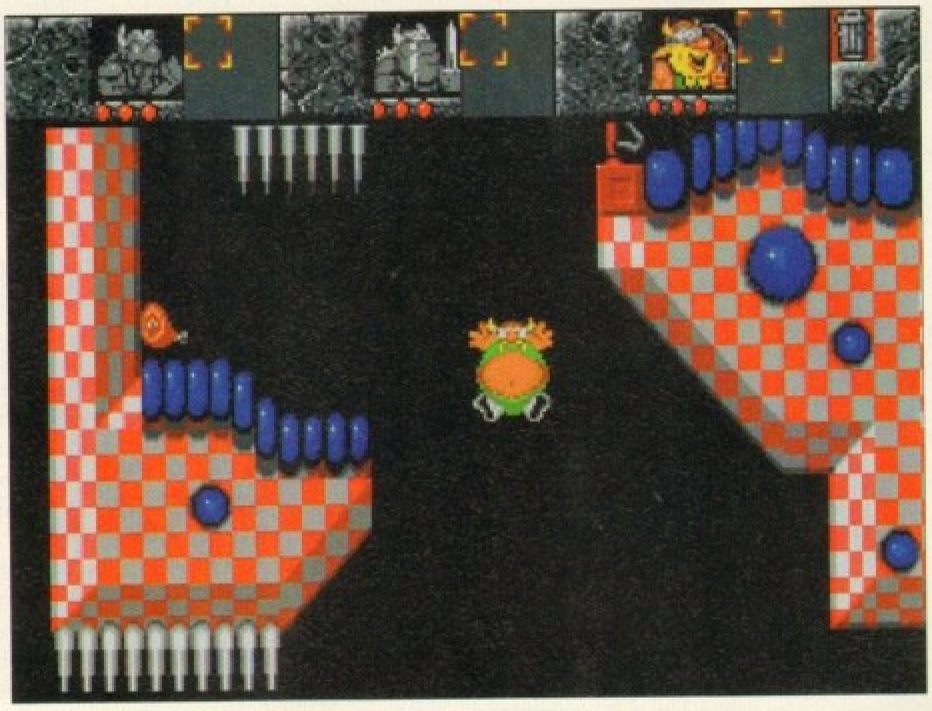
Olaf's talents lie in the defence department. He does a sterling job of blocking the enemies and their shots.

Last but by no means least is the youngest of the lads, Erik. Erik, or Erik the Swift as I should call him, is the nippy one of the bunch. He is the self-proclaimed leader of the pack, possesses speed and agility, and can't half put the nut on things if he's in the mood.

So, you're probably sitting there thinking to yourself: "This is all very nice, but what's this character profile bit got to do with anything?" Well, bear with me and all will be revealed.

Having been kidnapped and zipped into a time vortex, your task is to control Sweden's answer to Aha on a bid to destroy Tomator and return home.

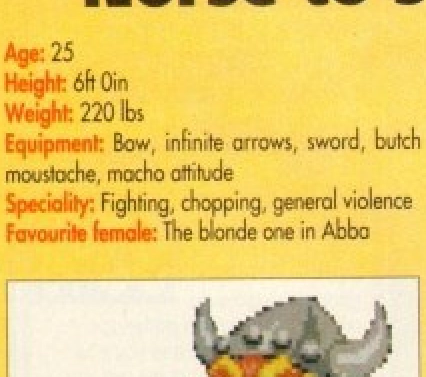
Now the game is definitely platform-oriented, but it has to be said that Lost Vikings is subtly different to many of the same genre. This is where my



Olaf sinks 25 pints of loopy juice and floats home (hic!)

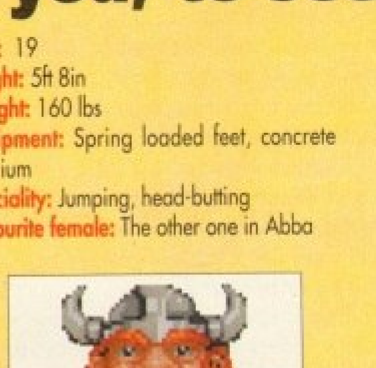
Norse to see you, to see you Norse!

Age: 25
Height: 6ft 0in
Weight: 220 lbs
Equipment: Bow, infinite arrows, sword, butch moustache, macho attitude
Speciality: Fighting, chopping, general violence
Favourite female: The blonde one in Abba



Baleog the Fierce

Age: 19
Height: 5ft 8in
Weight: 160 lbs
Equipment: Spring loaded feet, concrete cranium
Speciality: Jumping, head-butting
Favourite female: The other one in Abba

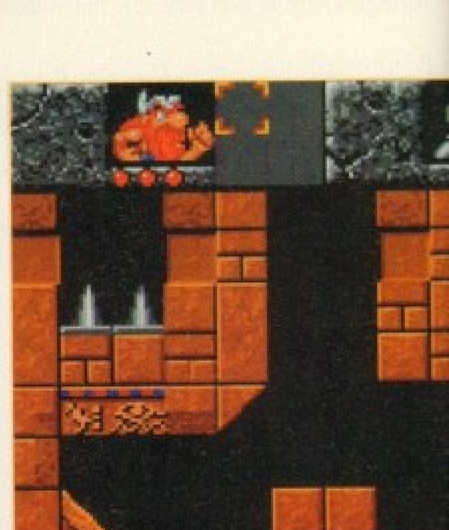


Erik the Swift

Age: 23
Height: 6ft 2in
Weight: 320 lbs
Equipment: Shield, large belly, silly laugh
Speciality: Being fat and blocking everything
Favourite female: Bella Emburg (sounds Scandinavian enough)



Olaf the Stout



It's hot work all this adventuring. I'm sure someone just shouted " Get yer Isis!"

character profile link may appear to begin to have some relevance. You see the crux to success in Lost Vikings relies on teamwork.

Your three Norsemen must be controlled simultaneously to work your way around the traps, puzzles and nasties which occupy the levels.

For example, Olaf – being the shield–bearer – absorbs all the incoming attacks from the level inhabitants, thus protecting his brothers.

Meanwhile Baleog can utilise his trusty bow and reign arrows down on the foe, while still safe from harm.

HANDY NOGGIN

Eric on the other hand comes into his own when performing jumps over objects. He is also adept at reaching artefacts otherwise out of reach, and his noggin comes in extremely handy for smashing walls apart.

Control of your three heroes sounds as though it should be tough, but it's far from it. The joystick controls their particular skills and toggling between characters is but a touch of the keyboard away – as is using items and operating levers and switches.

There's a fair amount of humour involved in Vikings. The boys take every opportunity to bicker with each other, in a very brotherly way. They also like to chew the fat with some of the more happy–go–lucky characters around.

Another nice little humorous touch is that after eating an item the boys let out a nice sampled belch – shot lads!

There are tons of levels divided into six worlds varying from the hi–tech spacecraft through to primeval dinosaur-infested lands, ancient Egypt and other bizarre places.



The lads stop off in Denmark for a bit of titillation at Madame Ta–ta's strip joint



The Norwegian Eurovision entrants flop for the 25th year running, and once more face the firing squad!

Your ultimate aim of course is to kill Tomator. This is easier said than done as he's one well 'ard sucker!

The level graphics are pretty enough, although the backdrops on some levels seem to be non-existent. I can only imagine it was a very dark, starless night when the boys did their adventuring stint.

However, animation of the Norse nut–jobs is really nicely done. All three characters have definite personalities which come across to the player really effectively. They all perform idiosyncratic acts, particular to themselves while they are not in use.

On the whole they come across as a half decent bunch and probably worth swigging a couple of pints of grog with.

On the macabre side, there are some pretty cool animations when your characters meet with an untimely demise. Whether it's impaled on a stalagmite or frazzled in a forcefield, it's off to Valhalla to meet Thor.

The problem with this is that having lost one of the brothers it's impossible to complete the level. Fortunately on completion of a level you get an access code so it's not all doom and gloom.

Overall, Lost Vikings is a very playable platform puzzler. It has fairly unique qualities, and it makes a pleasant change to have to protect and nurture three characters.

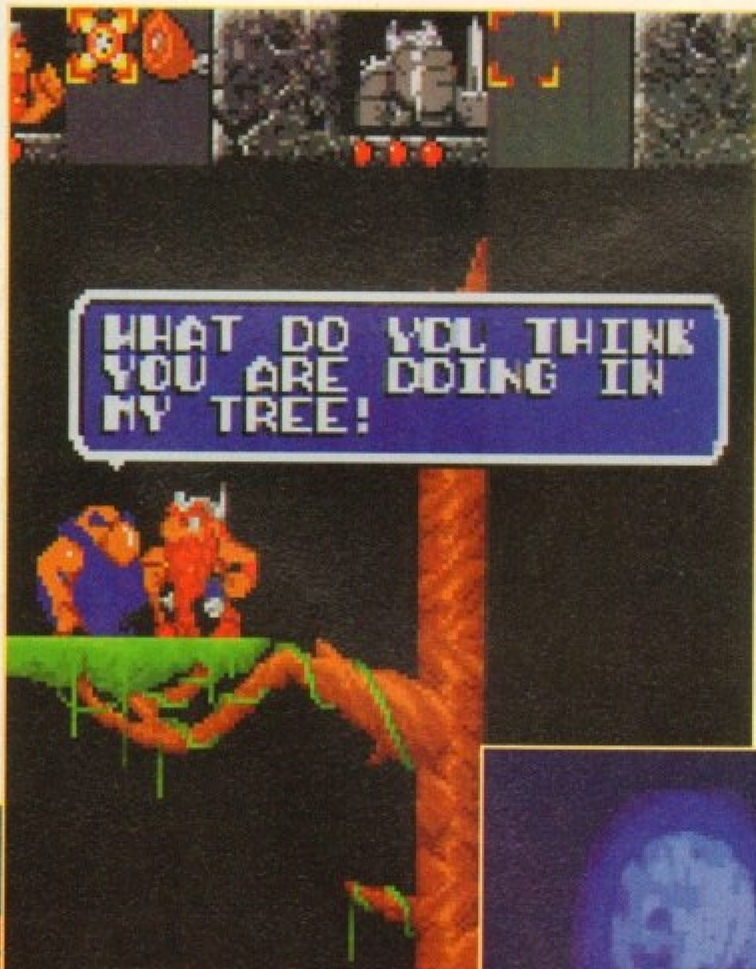
Instead of your bog standard multi–talented Sonic-type chappie, these Scandie geezers have strengths and weaknesses.

This makes for much more interesting play having to work out who is best suited to get past different traps.

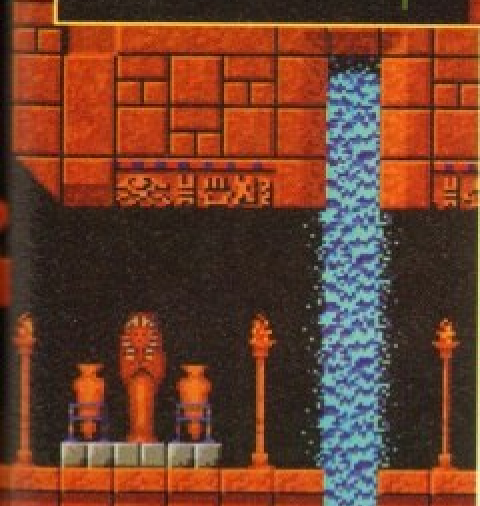
I've never been a great fan of arcade adventures, but in this case I have to say in my best Jimmy Swaggart voice "Lord! I've seen the light!"

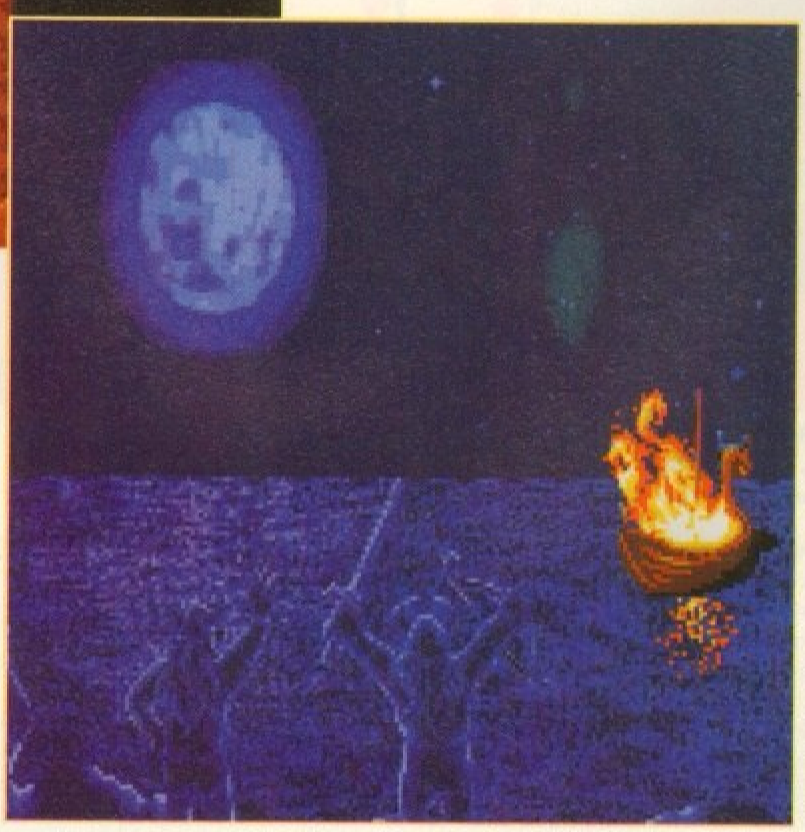
I have to say I'm pretty addicted to this particular merging of puzzles and arcade frolics. So, as Norway's (well Iceland's but it's close enough for my bad joke) greatest troll, Magnus Magnusson would say. "I've started so I'll Finnish..."

SIMON CLAYS



Erik's up a gum tree and decides to chew the fat with the missing link – or is it Morten Haäket from Aha?





After your demise it's the full works with funeral arrangements

VISION ●●●●●●●○○○

AUDIO ●●●●●●●○○○

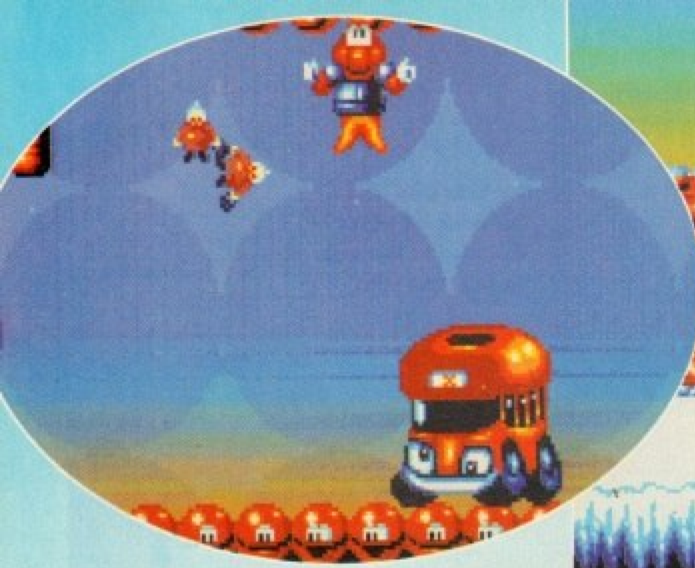
DIFFICULTY ●●●●●●●●○○

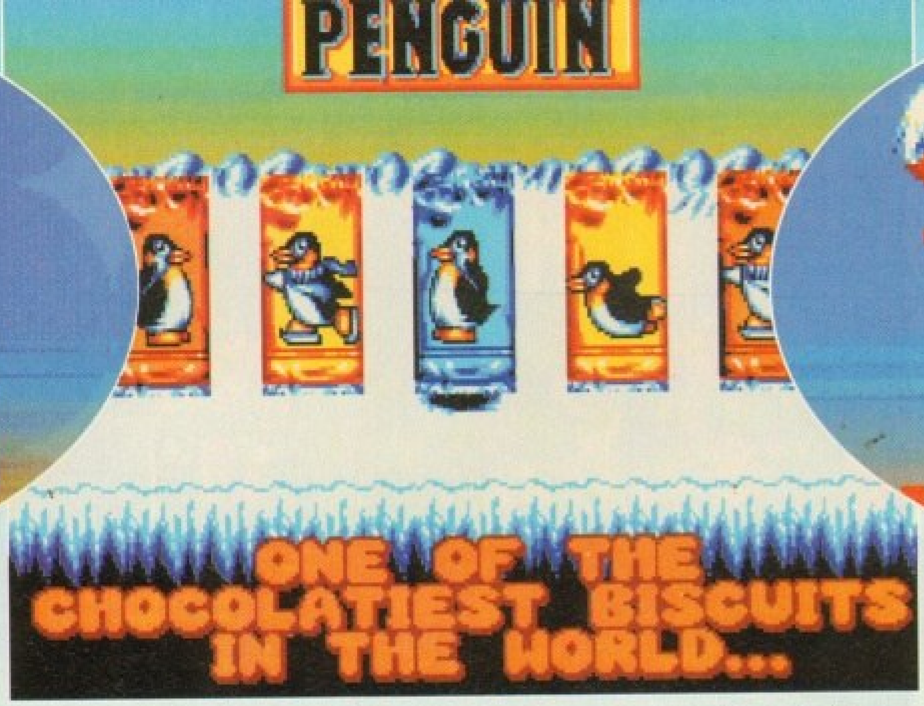
LASTABILITY ●●●●●●●●○○

The Lost Vikings is a very reasonable mix of puzzles, platforms and sword swinging mayhem. The graphics are neat and it's nearly as much fun to play with as Britt Ekland.

84%

Publisher ➤	Interplay
Developer ➤	Silicon and Synapse
Disks ➤	2
Price ➤	£29.99
HD Install ➤	Yes
Size ➤	1 meg







"Look! I'm a top spy. Licensed to kill, deadly missions... and I have to catch the bus!"

James Pond, seducer of the world's most glamorous women, p-p-picks up a Penguin?

James floats on air, after an encounter with Pussy Galore

ROBOCOD

A1200 Version

Splash down! He's back, licensed to gill and fresh from the set of Goldfish-finger... James Pond!

The re-emergence from the bottom of the aquarium of the most scaly sex symbol in the seven seas set my mind thinking about fish.

Well, really about fishing. You see I've never been fishing, and whenever I quiz the fishing fraternity about their nefarious hobby, they always reply how tranquil an activity it is. Sitting around calm waters in rural settings – relaxing.

Maybe I'm missing the point? I can understand the peace, and relative calm of sitting by still waters on a warm summers' day with vast quantities of chilled beer – that I like.

But getting up at three in the morning, carrying 50ft poles around and dipping your hands into half a tonne of wriggling extras from a Hammer movie? No way!

Well enough of my fishy tales and back to Captain Birdseye's stunt man, our James. As you might have gathered, he's back in a remake of his classic, second mission.

Most gamers will remember with a tidal wave of nostalgia the original A500 version. Starting as a virtual unknown, Mr Pond was heralded as fresh (fish), unusual, and highly playable with no big money tie-ups or licence endorsements.

ENHANCED MOOD

Since then the "mean, green, part machine" tuna-type chappie has become an overnight success, neigh a veritable "cod" of the platform world.

Well, after a while away swimming up the Gulf stream, James has cleaned his gills out, and is back in a refreshed, enhanced mood.

For those of you who don't recall the original plot, I shall refresh your protein-starved brains. The evil Doctor Maybe has hijacked good ol' Santa's toy factory. The nasty piece of work has been manufacturing a range of lethal playthings in an attempt to knacker up Crimbo for everybody.

Desperate governments eventually come up with the solution. Get in touch with F.I.5.H, who in turn will contact the only man for the job – James Pond.

Pond immediately reports to F. Instead of kitting out Jimbo with hi-tech gadgets like the homing condom, or a watch that turns into a space shuttle, F gives him a special robot suit, which enables our hake-like hero to breath on land.

It also enables him to expand his torso to preposterous lengths. This comes in extremely handy during play as very often Jim has to reach ledges and grip on with his fishy fingers.

This leads me rather neatly on to the play. The action is stereotypical platform mayhem. There are loads of power ups that enable you to do silly things like fly – I ask you, who ever heard of a flying fish?

James can also waddle aboard numerous other modes of transport. These vary throughout, but don't be surprised to find yourself trundling across the screen in a bath tub or flying past in a plane.

If this wasn't surreal enough. Each level is played in weird rooms made up of various giant toys and games. Not many times in a gamer's life he'll get mugged by Sindy! – not really. There are nine levels in all, and they're all as wacky as each other. One moment you'll be flipping past giant, grinning tennis balls; the next confronted by irate golf clubs.

Some mornings it's the last thing you need. Honestly Millennium, what are you running down there, a home for acid casualties?

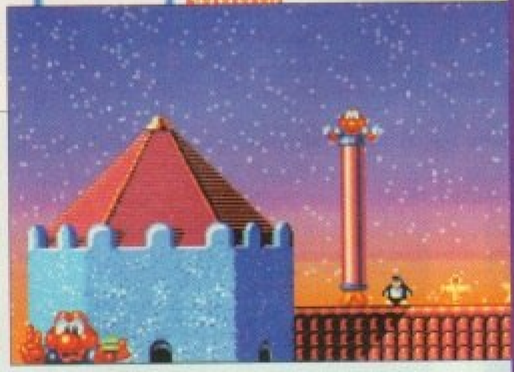
Anyway, basically you've got to jump, squash, stretch and generally splash your fins around, defeating baddies and killing massive level mothers every two stages.



James gets a stretch for running an illegal card school



Dan-Air Flight 201 apologises for spiking everybody, and the captain says "boomshanka, purple haze... man"



James Pond the man with deadly dandruff, shaken not stirred

But what of the enhancements, I hear you gargle from your padded bowl? Well, the 1200 version to all intents and purposes looks very similar.

The same beautifully stylised graphics haven't altered. They just seem more slick and polished. The animation is still spot on and there are loads of little touches which make for more titillating play.

The major improvements seem to be with such things as the backdrops. They've gained more depth, loads of colour and scroll more slickly.

There also appear to be a few more sections to contend with on each level on this version. But really after that, that's yer lot.

Now please, don't think of the previous comments as a criticism on my part. James Pond is brilliantly addictive and great fun to play. If you had it on your original Amiga and have just traded your trusty tool in for a 1200, I'm not sure. I'd buy it 'cos I think it's awesome, but obviously the choice is yours to ponder over.

However, if you've never got your fins wet before with the fishy one, don't delay, jump in at the deep end and enjoy endless fishmongering frolics with the hottest, halibut-type hunk in Hollywood.

SIMON CLAYS

VISION

AUDIO

DIFFICULTY

LASTABILITY

83%

James Pond II the remake, or enhanced 1200 version I should say, is a very spiffy re-working indeed. Everything's like the original: very original, but better. If you don't own it, get it. Now!

Publisher ➤	Millennium
Developer ➤	Millennium
Disks ➤	1
Price ➤	£25.99
HD Install ➤	Yes
Size ➤	1 meg



You won't tell me. Right, this calls for a bit of mouse pointer torture!



Here is an inventory from just one of your warriors who seems to be a bit sparse on the clothing front. Cover yourself up woman. Tutt, tutt



Silmarils return with another dose of Ishar. All adventure fans hold on to your maps and grip your spellbooks...

ISHAR 2

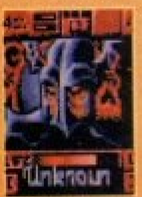
MESSENGERS OF DOOM

Reality used to be a friend of mine. PM Dawn once sung that line in a song of theirs and even though they look quite stupid they were, in fact, correct. Reality is something we game reviewers don't get a taste of very often.

I know this opening sounds a bit deep and you're thinking that I've flipped my lid or been experimenting with funny smelling cigarettes, but I haven't, so stick with it!

Game reviewers are more lucky than most other games players because we get to play every game that comes out on the market and we get them all for free. I can hear you punters swearing under your breath even as I write this, and all I can say is "ha!".

Don't be too disheartened though because we have to play everything including all the bad games and struggling through those is not a pleasant experience.



Disorientation is also a major problem. In one day you may find yourself flying a spaceship through the outer reaches of the galaxy shooting down waves of nasty alien beasties from the Planet X.

Ten minutes later you're a cutesy, happy-go-lucky dragon blowing bubbles at minions of evil in a world full of platforms, then you're playing football, then commanding a tank platoon, then flying a top secret government Stealth fighter, then you're a secret agent, then a terrorist, then a clown, then a superhero (yes, *I think we get the idea – Ed*).

Whatever you are, all these games are enough to give you a bad case of schizophrenia. One of the best types of games for you to lose yourself in is an adventure – see, told you I'd get there in the end. Here you can take the form of a warrior, wizard or whatever takes your fancy. Forget about modern day life and lose yourself in worlds of wonder and lands of fantasy. Last year Silmarils released Ishar and it received critical acclaim from games players and reviewers alike.



One of those ever so handy items that any decent adventure can't bare to be without... a map

In my best Jackanory story-telling voice I will present you with a short tale. After the defeat of Krogh and his Citadel of Evil the land of Ishar has entered a new golden age of peace and prosperity.

This is an adventure game though, so the golden age doesn't last for very long. It wouldn't be much of an adventure if all you had to do was run around in fields, drink wine and be happy!

Anyway, news reaches you of a new evil demonic figure, who is incidentally the head of a spider–like network of malevolence.

Based on the islands surrounding Ishar, this evil organisation is supplying addictive mind–controlling drugs to the locals with the direct aim of unopposed power and conquest.

Once again you must strap on your sword, brush up on your spellcraft and pack your sandwiches as you head for the islands with a brand new and sparkling team of heroes.

Like its predecessor, Ishar 2 is entirely controlled via the mouse. The left-hand button is used to select and the right-hand can be used to cancel the current operation and also close the menus selected.

Most adventurers I know, like myself, prefer to use a combination between the mouse and the keyboard and Ishar 2 lets you do exactly this.

Thus the numeric pad emulate the movements of the mouse. Various other keys can be used instead of the left and right-hand mouse buttons.

As you wander around the world of Kendoria you will meet many people and your first job is to recruit a team. This consists of a maximum of five characters, all of which have their own weaknesses and strengths. If you were lucky enough to play the first Ishar game and if you can still find your save disk, then you can re-use an old team from the game.

The characters will retain their characteristics, but they will lose their possessions and magic spells. Sometimes the characters' experience levels will be slightly altered to suit those present in Ishar 2.

I won't spend my time explaining every little detail about what you can do and how to control everything because it'll get very boring, plus I'll leave you to find it out yourself which will generate hours of fun for you, err probably. I'll go over a few of the basics, though, in a short but informative manner.



The first thing you need to learn is how to survive in the world of Kendoria, and this involves a quick lesson in the ancient art of fighting.

Fights in Ishar 2 take place in real time. The fight panel groups together the fight icons of each player with their active weapon. These icons are arranged in a quincunx – a very big and posh word which basically means that four of them are placed at the corners of a square with one in its centre.

These fight icons represent the five characters



The start of the game and already your one adventurer is taking a hell of a bashing!



Gerry Anderson gets into the Ishar 2 adventure while providing the game with one of his delightful UFOs that comes complete with strings!

in the team, each identified by their own Roman numeral. To make a team member strike an enemy all you have to do is click on the corresponding fight icon.

Hits that the enemy gives to your team are represented on the picture by a small patch of blood showing the damage points that your victim has lost.



The damage depends on several parameters; the power of the weapon, strength, agility, skill in weaponry and your enemy's constitution.

Other features include options to enrol, dismiss and even assassinate members of your team. You can also give first aid to a person if they are badly injured.

To get around the world you have a compass positioned at the top of the screen, but what every decent adventurer never leaves home without is a map.

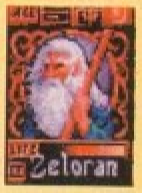
In Ishar 2 a map of the whole archipelago appears on the screen. By selecting one of the island, you will obtain a detailed map of it showing your actual position represented by a flashing dot. At the start of the game the map is incomplete, but as you progress throughout the world it will slowly become more complete.

In the world there are several different places that you can visit. First are the shops which there are three different kinds; animal traders, arms dealers and general merchants.



Our team of warriors take time out to play in Janet's superb tree-house...

Inns play a major part in the game – they're where you pick up information, eat food and sleep. Houses are also dotted about and you can expect to meet other people who will give you valuable information or suggest missions to you. If you're lucky you might even find a few objects in there. To get from island to island you must find a harbour. Here you will find a boatman. He will then take you to a ship where you can select other harbours to journey to.



There are a whole wealth of options that I've not even bothered to tell you about due to lack of space, but no doubt you'll find all about them when you buy the game yourself.

Oops, in one cunning swoop I've just told you my opinion of it. Yes, I'm afraid to say that Ishar 2 is a must-buy and should get to the top of every decent gamer's shopping list.

The graphics are luscious and beat every other adventure game of this ilk down to the ground. Some of the later levels are a sight to behold and the sprites as just as fantastic.

The music is not too bad – quite atmospheric – and what sound effects you hear are more than adequate.

I can't fault Ishar 2 on the playability and addiction front. The control and icon systems work brilliantly and even the most inadequate gamer will be adventuring before you know it.

Technically it beats all its competitors up with a big stick, but it is getting a very old and tired format, one of which I'm personally getting a bit sick of.

You could compere it to Dungeon Master and you wouldn't find much difference apart from the improvements in the graphics and sound departments.

I wouldn't mind seeing something a little different the next time around, possibly something as original as when Dungeon Master first came out.



Apart from that little quibble, Ishar 2 really is a winner and previous owners of Ishar are probably placing advance orders even as we speak. If you want a little adventure and excitement in your life, you'd do no wrong by getting to grips with this.

JONATHAN MADDOCK

VISION 9/10

AUDIO 7/10

DIFFICULTY 7/10

LASTABILITY 8/10

90%

Ishar 2 scores highly on the technical front and the playability and addiction can't be faulted. It is getting to be a bit of a tired and old format and this might make people a little weary.

Publisher ➤	Daze Marketing
Developer ➤	Silmarils
Disks ➤	3
Price ➤	£29.99
HD Install ➤	Yes
Size ➤	1 meg

DUNE 2

I never saw the film Dune. Perhaps that was because when it came out back in 1984, it was in the middle of Star Wars fever. Being a cheeky young nipper-type person at the time I didn't care for strange sci-fi films with seemingly incomprehensible plots when I could marvel at the stunning special-effects masterpieces pouring out of Lucasfilm Productions on a regular basis.

For me, Tatooine was the ultimate desolate desert planet, and Dune was merely an inferior imitation.

Apparently, the film was very strange and very long. Nearly two-and-a-half hours, in fact, and perhaps the reason for its strangeness was that it was directed by a certain David Lynch. Well, you learn something every day.

Of course, whether or not this was a fair assumption I can't honestly tell. But now, a decade on, Virgin have seen fit to produce a second computer game based around the Dune universe. Unlike the first one, which was an adventure, Dune 2 is very much a strategy game.

Despite never having seen the film or read the books, I was the obvious choice to review Dune 2. Why? Because I'm the gullible chappy around here. It must be said that neither Biff nor Simon wanted to have the task of reviewing this, for some reason.

To be quite frank, I don't think they've got the necessary noggin to cope with it. You have to be prepared to spend time learning how to play games like this, although the lengthy manual is very helpful and easy to digest. Or perhaps they were put off by its initially unappealing nature.

Dune 2 is set on the world of Arrakis, commonly known as Dune. It appears that the situation on Arrakis is nothing short of critical. The planet is the only source of the spice which makes interstellar travel possible and can prolong human life. It's also a component of dermal unguents, if anybody

In search of a little something to spice up your life? Maybe Virgin have the answer...

cares. Anyway, the point is, you need the stuff desperately. The problem is that you're not the only one who wants it. You represent one of three competing houses, and it's your job to make sure that you get the spice and they don't.

This desert planet boasts only two indigenous lifeforms; fremen and sand worms. The latter pose a threat to the average human, taking any opportunity to scoff them and their vehicles.

Basically, the ultimate objective of the game is to take over the planet, although your first mission is simply to fill a spice quota.

Gameplay basically consists of constructing new buildings, repairing any existing and damaged buildings, scouting out new areas of the planet, harvesting spice and destroying the opposing forces.

The screen shows a section of the map, which is several screens in size. The map is not revealed until you have scouted out the area with a vehicle or person. Exploring is necessary to find new spice fields to harvest.

You will also find sandy areas (beware of Sand Worms here), sand dunes, rocky areas, and mountains which are impassable for vehicles.

The vehicles available include trikes, quads, tanks, ornithopters (a type of weird aircraft) and so on. Some are well armoured and effective in battle, whereas others are designed to be fast and are subsequently less well armoured.

You move your vehicles about by clicking on them, clicking on the action you wish them to perform in the command window on the right-hand side of the screen, and finally clicking on the place where the action will be performed.

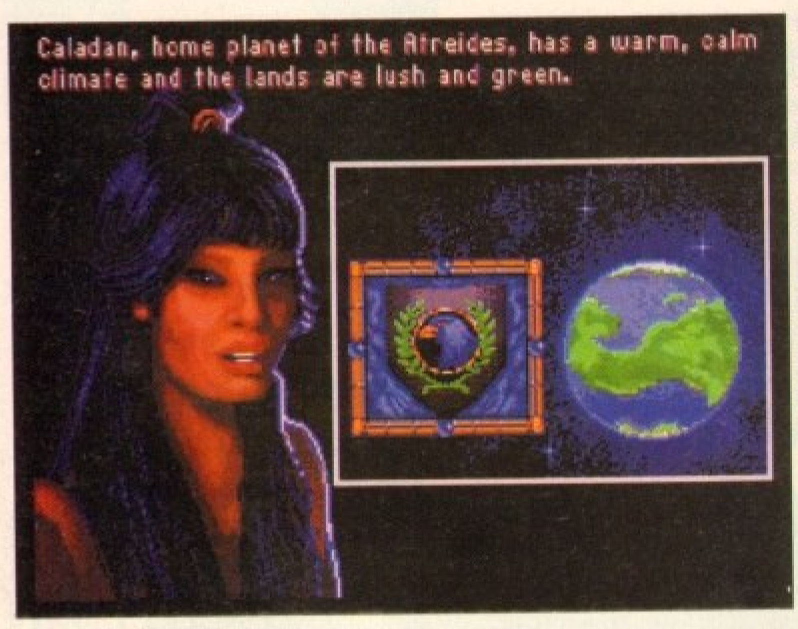
For instance, if you wanted to attack an enemy vehicle, you could click on one of your own trikes, then on ATTACK, then on the enemy. Clicking on your construction yard brings up the relevant menu in the command window. From here you can construct concrete foundations for buildings (this lessens the amount of repairs that will be needed later), and a variety of buildings.

Different buildings perform different functions – for example, a Wind Trap acts as a power plant, a Light Factory produces small vehicles, and so on.

Later in the game, buildings such as starports and research centres can be constructed, and this opens up new possibilities, such as trading and special new weapons.

The entire game can be controlled by the mouse, or by some well-thought out key-presses if you prefer. Throughout the game you can call upon this bloke (or bloke-ess, depending on your house) called a Mentat who bestows pearls of wisdom upon you and gives you updates on your progress.

The graphics aren't wonderful but they are functional enough. The digitised sound effects, however, saying things like "yes sir", "affirmative", and "enemy unit destroyed" complete with radio clicks, are really well done, and some atmospheric



Before you do anything else, you've got to select a house to represent. You'll be presented with details about each before making the big decision



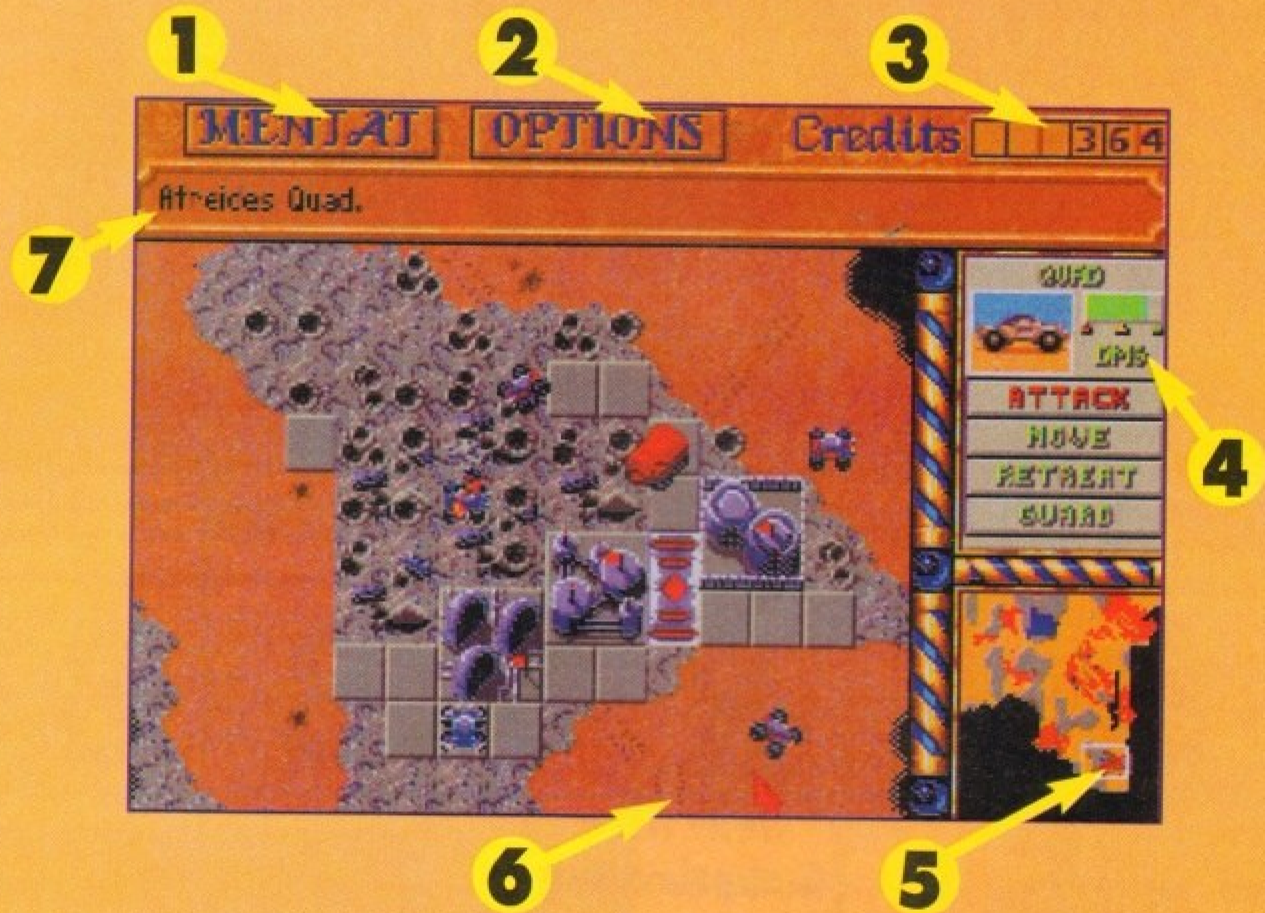
When you begin the game, you have but a single construction site. This could be a vast base, in dune course (sorry)



Dune-know what this icon does?

If you're going to get anywhere with this game, you've got to know what all the little icons do when you click on them. So here, courtesy of *Gamer* (the top magazine for the discerning spice harvester) is a guide to what does what on the screen:

1. Click here to speak with your advisor
2. This lets you save and load games and change the speed of the game to suit your taste
3. This is how much cash you've got
4. When you click on a vehicle, something like this will appear in the command window. It shows you the vehicle's damage status and allows you to give orders
5. The radar scanner
6. The main map window which scrolls around
7. Various messages appear here giving you news and information



music plays away in the background when it's not deafened by laser blasts. The soundtrack enhances the gameplay considerably. When you first begin, you may find it to be slightly confusing or dull, but as you play it more you'll find it becomes quite addictive.

It's not perfect, however. It can become a bit repetitive after a while, since the objective for each level is pretty much identical and the technique required to achieve it doesn't vary. It also seems to lack that certain indefinable something that truly classic games have. Beneath the rather dull façade there is actually quite a lot of depth and challenge, it's just that the challenges don't change as the game progresses – it's always just a race to build the best buildings and protect yourself against the enemy.

While this may all sound very similar to MegaLoMania, there are two significant differences. Firstly, MegaLoMania had better graphics and humorous sound which made it instantly accessible.

Secondly, in MegaLoMania, as the game progressed and the tech level changed, the methods of gameplay required to succeed changed considerably, whereas in Dune 2 the method stays the same.

Despite this, Dune 2 is a very competent attempt at the genre, but not up there with the classics. Were there a little more variety it could have been a Gamer Gold...

DAVE CUSICK

VISION

AUDIO

DIFFICULTY

LASTABILITY

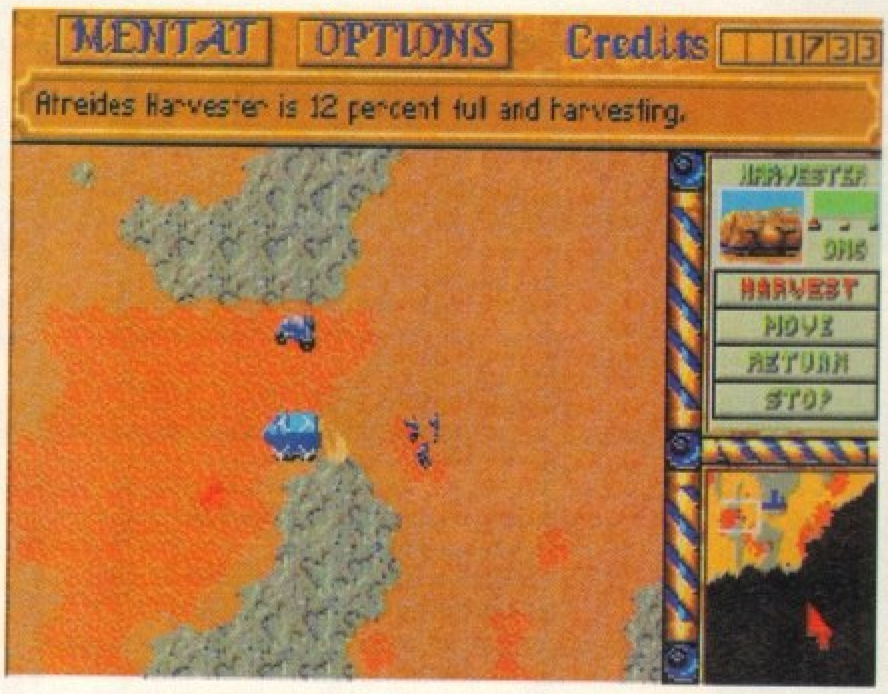
81%

A game that grows on you if you stick at it. There's plenty of depth and challenge and it's quite well executed. A good attempt at a difficult genre to succeed with.

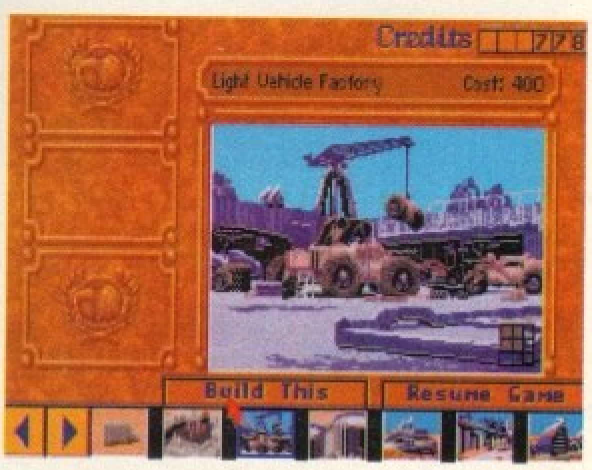
Publisher ➤	Virgin
Developer ➤	Westwood Studios
Disks ➤	5
Price ➤	£30.99
HD Install ➤	Yes
Size ➤	1 meg



My home base. Everything needed for warmongering and self-sufficiency



You come here when you click on the construction site. And visually stunning it is too



In some sectors of the planet there are plenty of spice fields. Once you've found one you can send out a harvester to do the biz



The computer plays like my sister, in that it makes up words and decides to let itself get away with it. Who's ever heard of such words as Calea, Cuing, Bundu, Boily and Woon?



The main game screen is simple and uncluttered. And writing captions for it is nigh on impossible

SCRABBLE

A captivating quasi-expressional diversion or an abominable and ineffective feigning of its table-based progenitor?

There was an immortal scene in *The Tall Guy* in which Jeff Goldblum and Emma Thompson stood alone in Thompson's shoddy flat in the early afternoon.

"Two people, alone, in the middle of the afternoon," murmured Thompson. "Yes," replied Goldblum, "Ideal conditions for Scrabble."

Needless to say, they got up to a good deal more than Scrabble that afternoon, but that's not the point. The game has proved fascinating to many people, although quite why I'm not exactly sure.

It's been around in this country since 1954, the manual says, and over 35 million copies have been sold in over 90 countries since its launch.

The basic objective is to create words from your seven letters and place them on the board so as to score as many points as possible. Certain squares on the board double or triple the amount of points scored.

I must admit I was sceptical when presented with Scrabble. When the game has already proved so popular in its original form, why convert it to a less portable and far more expensive computer format?

Well, I suppose the computer could at least settle disputes over allowable words. In addition, it provides an opponent of adjustable ability to challenge lonely Scrabble players with nobody to play against.

Boards can also be printed out for posterity, if you want, for example, to adorn your walls with poster-sized Scrabble boards.

The game is controlled via the mouse, and during play the screen is composed simply of a board on the left-hand side and your letters and a few options to click on down the right-hand side.

When it's your turn, you can click on letters and they'll appear at the top of the screen. Here you can rearrange them and when you've got a word you think will score well, select whether the word will read across or down, and drag this to the position on the board where you want to place it.

If you're stumped as to what moves you could possibly make with your selection of letters, there's a built-in help mode which makes suggestions to you. The dictionary runs to over 134,000 words, as listed in the Chambers Official Scrabble Words book.

The help mode can be set up to suggest anything from really basic low-scoring words to whopping great killer-moves. Apparently the record word score in Scrabble competitions is held by Dr Karl Khoshnaw of Manchester, who scored 392 points for "Caziques" (which, also apparently, is the plural for a West Indian chief). Whether the help-mode could offer moves quite like that I don't know, but it's still very useful.

Scrabble fans might be disappointed that a player's letters are displayed on-screen for all to see, although I really can't see any way of avoiding this. When it's another player's turn they do disappear again.

Graphically the game is about as exciting as Scrabble ever could be – that is to say, not very – and the sound consists of an irritating tune and not a lot else. However, this is excusable in a game of this type, since the emphasis is purely on making the gameplay as good as possible.

What else is there to say? Scrabble is Scrabble, and the computer version is a perfectly competent attempt at converting the game to a new media.

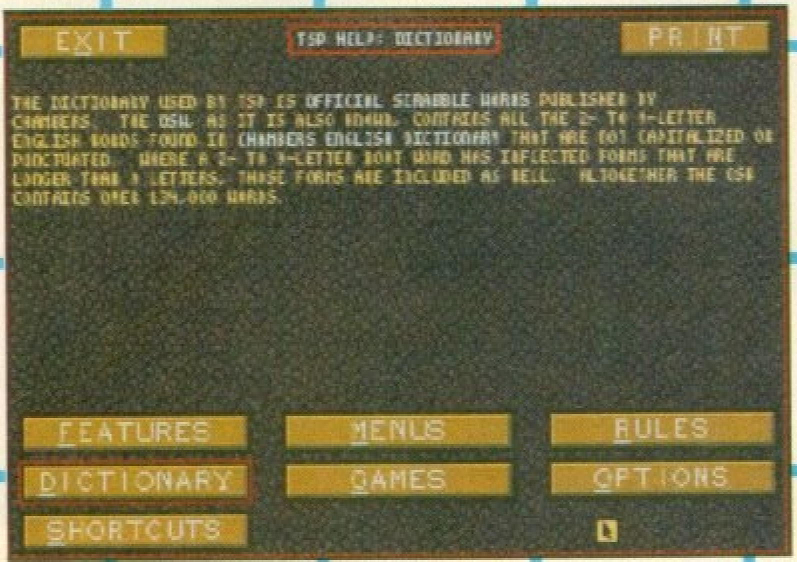
The problem is that traditionalists will prefer the board game version anyway, and many people won't want to shell out £25 in these financially bleak times, when they could buy the original for a tenner.

The only disappointment for me is that in the computer version you can't cheat and swap your letters for more useful ones when the other players aren't looking.

DAVID CUSICK



The word you're in the process of making is shown at the top of screen and from here you drag it onto the board



The game has built-in help screens so that even the first-time player won't feel lost

VISION	7/10
AUDIO	4/10
DIFFICULTY	8/10
LASTABILITY	8/10

80%

A good conversion, but I can't see it appealing to all that many people. It deserves more success than it's likely to get, because it's a very involving and brain-taxing game. As close to the real thing as it could be.

Publisher ➤	US Gold
Developer ➤	In-house
Disks ➤	1
Price ➤	£25.99
HD Install ➤	Yes
Size ➤	½ meg

BRUTAL SPORTS FOOTBALL

ON THE Drawingboard 1

Anyone who thinks Sunday League footy is dirty, think again. Millennium are about to set new levels of OTT behaviour with their impending gore-bucket release. Simon Clays takes a look...

When the letter turned up in the post offering a sneaky look at Millennium's forthcoming attractions, it didn't take many minutes to reach a decision.

What, nice ride out to scenic Cambridge, spot of lunch, few coldies and a preview of Brutal Sports Footy with those pleasant chappies who brought you Robocod and Rome AD92? I'll think about it. Not!

Before we go any further however, I've got to get this out of my system. Somebody for Heaven's sake build a bloody motorway to Cambridge! That or move it further north! Honestly, what a trek.

Anyway, you didn't start reading this column to listen to my moans about the state of Britain's road network. What about Brutal Sports?

Well the first thing I can report back is that it will be the first in a series of titles under the banner of Brutal Sports. Millennium say with some confidence that there are ideas in the pipeline for a series of violent forays into futuristic sports.

Although there are no fixed plans, a little bird told me that Brutal Basketball could well feature – the mind boggles!

However, first off the production line is Football. Well, I say it's football but the similarities are remote to say the least.

Set in the gloomy post-apocalyptic world of 2089, Brutal Sports Footy puts you in control of one of eight man-made mutant teams.

These vary between teams of sub-human muties like the Vikings through to the rather more bizarre teams of rhinos and lizards.

All the teams have different skills particular to their species. For example, the dragons have a nasty knack of breathing fire and toasting the opposition, whereas the rhinos favour the subtlety of the body stomp – nice bunch of lads the rhinos!

As for rules, well there aren't any. Basically it's every man for himself, in a survival of the maddest. However, there are a couple of ways to win.

Method one involves getting the rugby-shaped ball into the back of the goal (as one would expect).

The other technique is to employ absolute blood-lust mode and wipe out the opposition. This is sure to prove a popular option as there are so many gory ways to rid the turf of the opposition.

You can slash large chunks out of each other by utilising a variety of swords that lie around the field of play. Or if you prefer, attempting a complete decapitation could be the order of the day!

There are also bags of other interesting modes of mutilation to occupy the psychotic mind and satiate the most sadistic tendencies.

These come in all forms from lightning bolts which totally immobilise the opposition to temporary ice prisons which trap your opponent.

It's really totally over-the-top carnage on a pitch which churns up the longer the play continues.

COMMENTARY JOCKS

Watching over the bloodbath are Bob and Jim, the commentary jocks. There's no room for the suave, sophisticated Des Lynham types in the holocaust world of the future.

No, these guys are ex-pros, and they're both absolute beer-monsters, with the IQ of a jock strap and manners to match.

Their main contribution is to add some sickly spice in the commentary department. In fact, they converse in a very surreal, futuristic, slang lingo which describes certain moves and techniques involved in the play.

At the moment I'm still trying to get my battered bonce around getting "atomised" or "Jules Verned". But, watch this space for more linguistic vernacular from the street game of tomorrow in the very near future. However, they are survivors and should be granted some respect. Well, they're hard cases who'll beat the crap out of you if you step out of line. Having played the "nearly completed version", I can definitely say things are looking good for its October release date.



Another goalmouth scramble... let's hope they get the right ball



Although I got totally taken to the cleaners, I have to say the gameplay is excellent. The graphics are nicely defined and everything moves at a frantic rate.

The number of things going on in the play at once is ridiculous. While headless blood-coated carcasses lie redundant on the gore-soaked turf, some heartless ruffians welly their decapitated bonces around like coconuts!

Brutal Sports Footy looks set to be a biggy. It's the kind of game that's a great laugh to play with your mates. Loads of over-the-top violence that's far too stupid to take seriously coupled with compulsive gameplay.

So if brain-crunching, ear-splitting, nose-wrenching mindless violence and a slight touch of ball skill's your thing, better start brushing the old leather armour down because Brutal Sports' is definitely the one for you.

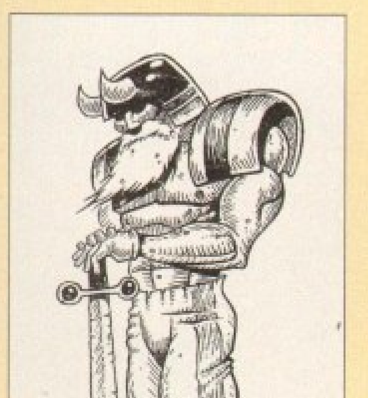
The mean team



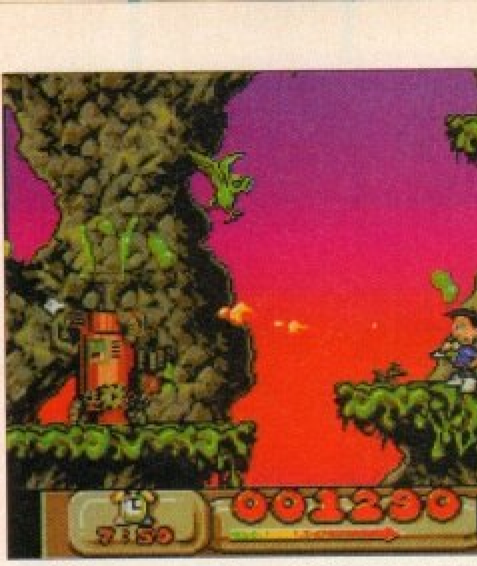
Tight pants and feeling horny, it's the rock hard rhinos



No butts, it's the wild goats



Norse nutters the Vikings



Mack blasts a generator and in doing so helps save the environment. Fine, if Virgin say so...



Jumpy jumpy, blasty blasty. Jumpy blast, blasty jump. Blasty jump, jumpy blast. (Sigh) I love platformers

GLOBAL GLADIATORS

Interesting – an ecologically sound game from McDonalds!

Now this is a strange cookie. Here we have possibly the world's biggest fast food chain, who every day produce millions of individually wrapped burgers and cardboard-packaged French fries, sponsoring a game about cleaning up the planet.

Is this an attempt to assuage a guilty conscience, or is there really something in their new-found "green"-ness?

About as close as most of us ever get to being environmentally friendly is recycling the odd aluminium can, or buying CFC-free aerosols. Global Gladiators takes it all a stage further.

While sitting in their local McDonald's reading the latest copy of *Global Gladiators* (the magazine for the truly sad burger junkies with no life whatsoever) our heroes Mick and Mack received a bizarre visitation. Nothing supernatural... just Ronald McDonald, that highly humorous clown who never fails to tickle one's fancy.

Ronald, kind soul that he is, zaps these two into this twisted slimeworld, the only provocation for this being Mick (or possibly Mack)'s words "I wish I was a Global Gladiator."

Whether he actually wanted to experience gladiating of the global kind for himself is debatable. Perhaps there's a moral in this story... being a McDonald's burger junkie could be a serious threat to your health.

Anyway, whether or not they're as eager as Ronald thinks they are to make amends for the masses of paper they've wasted in their all-too-frequent forays to their favourite fast food emporium, they've set out to purge the earth of slime armed only with some weird green guns.

In exactly what way slime is contributing to global environmental problems I'm not sure, but anyway, that's where you come in. You have to lead one or other of the cheeky chappies across numerous scrolly landscapes, shooting slime and slime generators, collecting McDonalds "M" signs, and avoiding falling in pools of some acidic substance. Yes readers, it's a platformer with shooty overtones.

Before you turn the page in disgust though, it's not as bad as it sounds, because Virgin have made quite a good job of it. The graphics are nicely done and your character is very well animated. He's also an athletic soul, being able to leap about, fire his blaster at all sorts of angles, and so on.

When you're not actually moving him around, he'll happily chew away on some bubble gum, or prime his gun for action, or spin it around on his finger. The nice backgrounds make the whole game look stylish. The music's quite good too. The whole program is exceptionally well presented.

The levels are pretty large, in fact they're a lot burger (sorry) than you'd expect. Because you're also up against the clock, you'll probably find some of the levels pretty taxing.

You can't finish a level until you've collected a sizeable amount of "M" arches, so when you find yourself hunting for just one more arch with 30 seconds left the game can become quite frantic.

While not radically different in game style to any other platformer ever, it is a slick example of the genre and will certainly appeal to fans of arcade-style romps.

DAVE CUSICK



Mack seems to be struggling more with his gum than he does with the slime. What a cool, calm and collected guy he is



Without even breaking a sweat, Mick despatches some slime. What a bloke. It must be all those burgers he eats



"Gotta"? No wonder the kids of today can't spell, if this is the sort of appalling American English they're exposed to

VISION
●●●●●●●●○○

AUDIO
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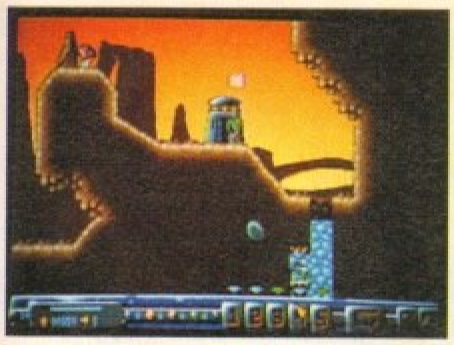
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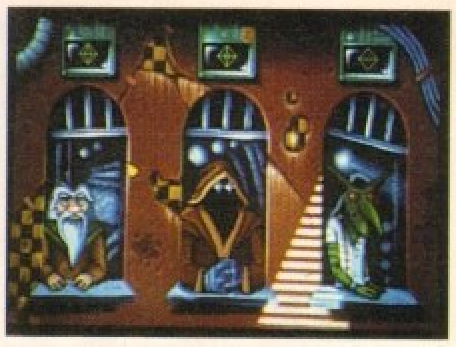
81%

A playable and well executed little excursion into a genre that really can't be improved upon much more. That said, this is still a title worthy of a place in many people's collections.

Publisher ➤	Virgin Games
Developer ➤	Virgin Games
Disks ➤	2
Price ➤	£25.99
HD Install ➤	No
Size ➤	1 meg



ON THE Drawingboard 2



Hi-ho! Hi-ho! It's off to work we go... Simon Clays grabs his pit-boots and casts his open "mined" to matters

DIGGERS

When I found out that a title was in development for the A1200 that centred its attentions on mining, I was intrigued to say the least. Were you to take on the role of Michael Heseltine, whose mission it is to close down every profitable pit on the planet without suffering a heart attack? Or, were you to play Arthur Scargill's wife campaigning against the fact that there is to be no more shafting?

Well, the thankful answer is neither of these. In fact Diggers has nothing to with any form of terrestrial mining as we know it. Instead, it's set in the depths of space on the planet Zarg.

Here, on the glorious 412th, the planet's authorities allow a month of frenzied free mining and scavenging for all manner of precious gems. This probably does wonders for their tourist trade.

The problem is that it's awfully competitive, with many alien races converging on the place at the same time – sounds remarkably like Glastonbury.

You have two main routes to achieve success. Route one is to raise cash by running a successful operation. The second, probably more popular choice, is to knock the pit-props out of rival companies and lift all their goodies.

This would be a fairly straightforward exercise but for one thing. Diggers looks set to be absolutely huge – and that's with a double "oo".

I'm not one to get techy with you, but when a game boasts this much you can't just skip over it. Diggers' comprises of 33 huge levels, each made up of 72 screens. In fact, Millennium are claiming a total of some 30,000 locations throughout play.

Each level will relate to a different area on the planet surface. Subsequently, the terrain alters level to level, meaning having successfully quarried a forested area, your poor pit-ponies might land up in some Arctic zone, freezing their gem-stones off.

But what of the workforce, I hear you scream?

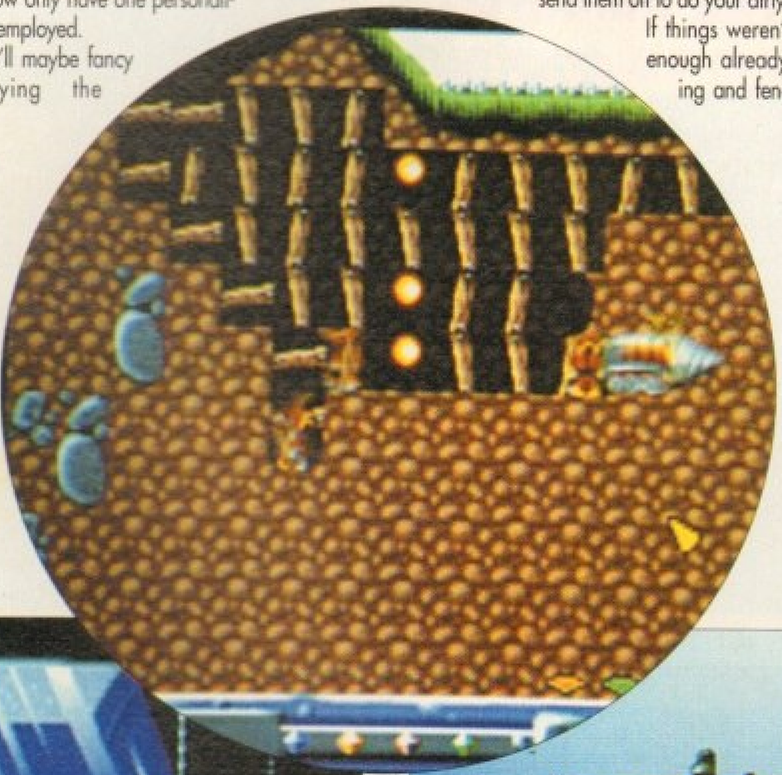
Well, this is where things look set to take on dimensions of even greater proportion.

You see, at the outset of each scenario you will be given the choice of four different groups of miners who operate in teams of five. Each race of diggers will have vastly different personal attributes and idiosyncracies. This is unlike English miners who now only have one personality – unemployed.

You'll maybe fancy employing the Habbish, who though intelligent, get bored easily and down tools to have a pray. Or perhaps you'll take on the mantle of the Grablins. These critters dig fast but are incredibly cowardly. The strategical choice will be yours.

Control of your team will be via a number of icons. Just clicking on your hapless workers will send them off to do your dirty work.

If things weren't tough enough already, fighting and fending off rival workers, there's more. The levels are full of all manner of nasties.



These vary from nasty toxic mushies (remember kids, don't do drugs!) through to zombie-type folk who inhabit subterranean caverns.

Anyway, after a hard day's slog down the pit, what better way to wind down than a visit to the Zargon trading centre – better known as the corner shop?

Here you will be able to purchase all the goodies to make life down the mine a trifle easier. You'll be able to buy all manner of hardware, from super-sized mining drills through to lifts and mining carts. In fact, you can even buy teleporters to zap into rival territory and rob valuables.

Having been fortunate enough to see a close-to-completion version of Diggers, it looks and plays as well as the hype might suggest.

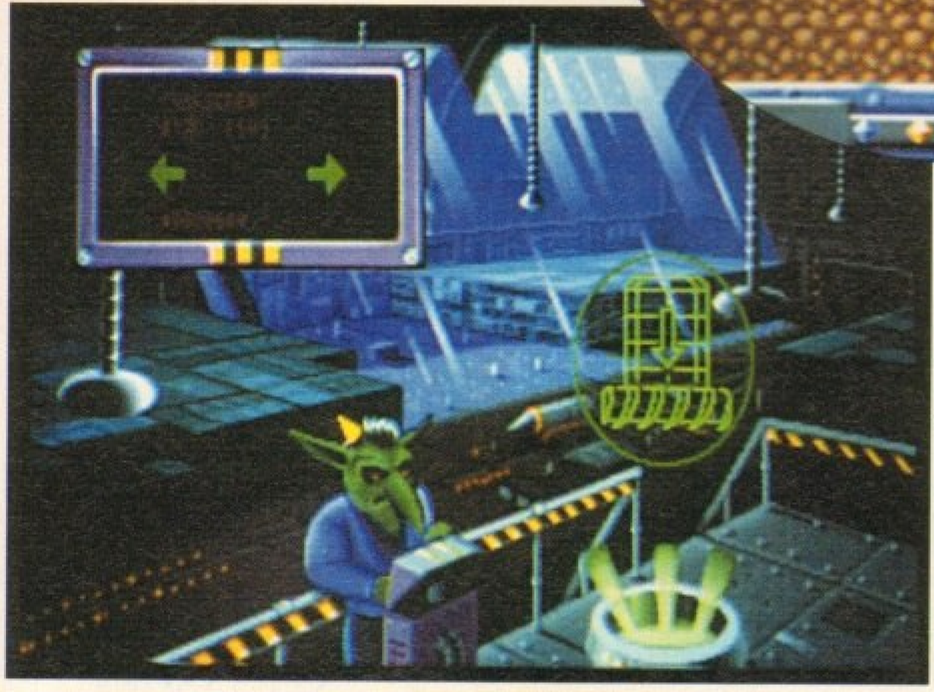
It's highly playable with acutely intelligent computer opponents who really are out to get you. Also the graphics are impressive, especially the backdrops which are really neat.

Millennium have come up with a very intelligent, unique piece of software. There are so many facets to this title, whether it be the artificial intelligence of the different races, or just the vastness and variety of life on planet Zarg.

All in all, diggers looks set to become bigger than itself, and that's tough. It's going to appeal to both puzzlers and strategists alike. It even has aspects which could liken it to a platformer.

When this game hits the shelves I can see fellow reviewers making comparisons to Lemmings or indeed, Humans. However, the only true likeness I can see is that, like both of these titles, it's going to be massive.

So, with this in mind I heartily recommend that you stake your claim in the intergalactic Klondike and get digging!



Jimmy Hill takes on a saturday job at the Zargon Trading Centre

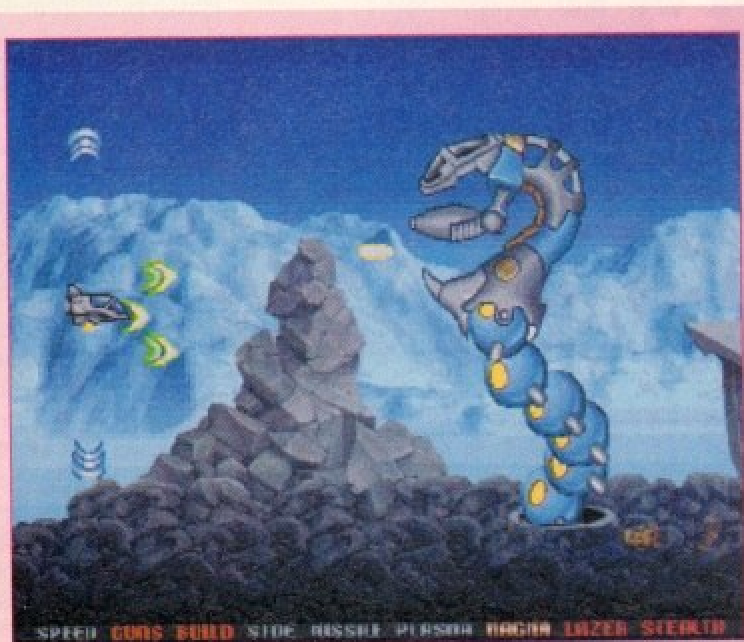


Just shove them in the right direction and these boys will dig all day

The CHEAP seats

It's time to whip out your ticket, grab a bucket of popcorn, get torch blindness from the usherette and grope your way into the Cheap Seats!

Simon's selection



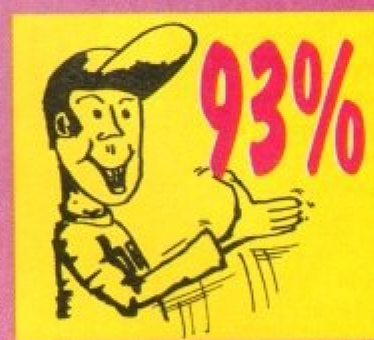
Project X
Team 17 ▪ £12.99

It wasn't many lunar cycles ago that I was playing the full price version of Team 17's foray into the world of space blasters.

Yet, no sooner am I just getting over a bad bout of space sickness, and it's back!

Now released on budget, Team 17 have trodden ground seldom trod by software houses. They've listened to the inane ramblings of the buying public and tweaked a product to suit.

Heralded as the Amiga's top shoot–'em–up, Project X has no pretensions about complicated story lines. Instead it's five levels of sizzling arcade action.



The gameplay is devastatingly rapid and not at the expense of the graphics. Project X boasts some massive sprites and some of the rockest level guardians I've come up against – honestly these dudes have tattoos, smoke bitter and drink tabs!

Boasting a shuttleful of features and more weapons than a Ronald Reagan peace–keeping force in Central America, Project X is a winner.

If you didn't buy it first time around you were foolish. Miss it this time on budget and you're a mutie who should be sucking vacuum in nether–space!

The Immortal
The Hit Squad ▪ £12.99

Man's quest for eternal youth has been with him for thousands of years. To be able to sink 25 pints of lager on a Saturday night, get up with no hangover and then run around for 90 minutes playing football for the Sunday team forever is the dream of many. However, The Immortal has nothing to do with such pipe dreams. Instead you are cast as the sucker who has to rescue his boss from the depths of a labyrinth. In this case your boss is a top wizard-type dude called Mordamir. To make matters worse the dungeon is inhabited by the normal quota of nasties. Doesn't sound anything at all different yet does it?



Well actually it is! The display, rather than your bog standard Dungeon Master approach, is generated in a true 3D style. You control your character as one would in a hack–'em–up, interacting with others as you stumble haplessly around the labyrinth.

There are loads of traps and puzzles to contend with as well as a host of spells for your do-gooder adventurer to use. Immortal is a visually attractive, most playable, addictive game. It's guaranteed to hold your attention for eternity!





Bart vs the Space Mutants
Hit Squad ▪ £9.99

Having invaded the TV screen, the charts and probably your sanity, the Bartman's back to annoy you in budget form.

To quote the ambassador of American youth culture, the plot goes something like this:

"A bunch of totally gross and putrid monsters are taking over the bodies of the people of Springfield – Bart's home town. They wanna build a weapon that's gonna take over the planet!"

So, tooled up with X-ray specs, spray paint and a skateboard, your job is to rid the world of the belligerent body snatchers.



There are five levels in different areas of town and plenty of nasties like the Zebloid and the Glondip to keep you occupied on your tick–tocking travels. On the plus side, the animated intro is worth seeing once or twice and there are some pretty clever puzzle elements to the play.

But on the whole it's a fairly run of the mill platformy game riding on the back of the latest paper super brat.

• Quantum Software •

GLOBAL CONFLICT



The history books are full of infamous characters who have tried to dominate the world, but have failed. Now here is your chance to write your name on the next page of history.

Quantum Software have developed a new game system enabling you to play against 5 other human players throughout the United Kingdom. This system is called Interactive Computer Play (I.C.P.). Although the origins of I.C.P. stem from Play By Mail, Quantum Software have taken this a step further. The game is played on your computer as in any other computer game, the difference being that in order to interact with other players all turns are saved to disk, forwarded to us for processing by our computers. All turns are on a seven to fourteen day basis.

Global Conflict is a contemporary strategic wargame for 6 players. The game is played on a world map consisting of 31 different countries. The computer will randomly choose 6 countries, one for each player. The remaining 25 countries are neutrals controlled by the computer. A player needs only to retain occupation of any one country to remain in the game.

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Quantum Software will present a cheque for £500 to the player who wins the VERY FIRST game of Global Conflict. Thereafter any further winners will receive a Quantum Gift Voucher.

A boxed game containing Manual, Disks and 2 Free Turns for only £12.99. Further turns are charged at £2.95.

Due to the complexity involved in matching players to games, please allow approx 28 days for delivery.

Global Conflict – Amiga 1Mb RAM only (A1200 Compatible) (AC)

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Remember that in Elwingil lives Thorm, who has some monk's robes that you will need later on, so go up to Thorm and collect them. By now all your party should be on level ten and have collected 31,000 experience points – if not, it is a very good idea to go and collect them because they will be needed soon.

You should also have four out of five members of your team carrying runic tablets which in the later stages of Ishar will offer you all some form of protection. Head back towards to the Fhulbrod Forest and then head North.

Make sure that all of the team of brave adventurers can drink a "brainwash" potion and you can use a protection spell or something similar because you will meet a very powerful wizard who could blind, inverse and bind your party. Some effects wear off, but not inversion.

When you have despatched with the wicked wizard you will gain the entrance to the Valathar Dungeon. Make sure that your team have been refreshed. If they haven't then now is a good time to refresh them.

We continue this month with the second and final part of our solution to Ishar which has only just been released on the A1200

Free drugs!

One last tip for Ishar – how to get your potions for free. First you have to click on the face pictures of everybody, then the hands picture of the member who has the potion to be copied, then pick someone who would like the potion.

The member who has the potion should be holding a two-handed weapon. Pick up the potion, click on the shaded hand and then click on the other member's hand. Now put the potion back in the first member's hand – he should now have two bottles.

Pick up one and as soon as you click on the shaded hand the count should go up one. Now to finish, put the spare either in the first man's hand to boost his supply or the other man's hand.

The Gamer guide to Ishar

Part 2

Having opened the door with Erwin's key you can enter the dungeon. The first few rooms contains zombies that you can burn quite easily. Be on the look-out for treasure and food, and most important of all, try to find a key.

Leave through the opening and you will find at the junction that there is a locked door. Turn right into a diamond-shaped room, this is where the Black Knight lives. Instead of swapping tales about good and evil and generally being polite, fireball him.

Continue into the next room and then turn right and enter a maze that contains treasure, oil and yet another key. Open the locked door in the Black Knight's room and follow the maze. Collect the oil and eventually you'll come to a T-junction.

Turn left into a room with two levers and a key in it. Operate the lever that was on the far wall as you first came in the room. This lever opens the barred gate at the other end of the T-junction. Going that way you will encounter a spider guarding some food, and you'll also come across yet another key.

Now go back to the locked door and open it. Collect the oil and travel up the top of the corridor. To the right is a giant to be sorted out. Once the giant is defeated you will gain another key.

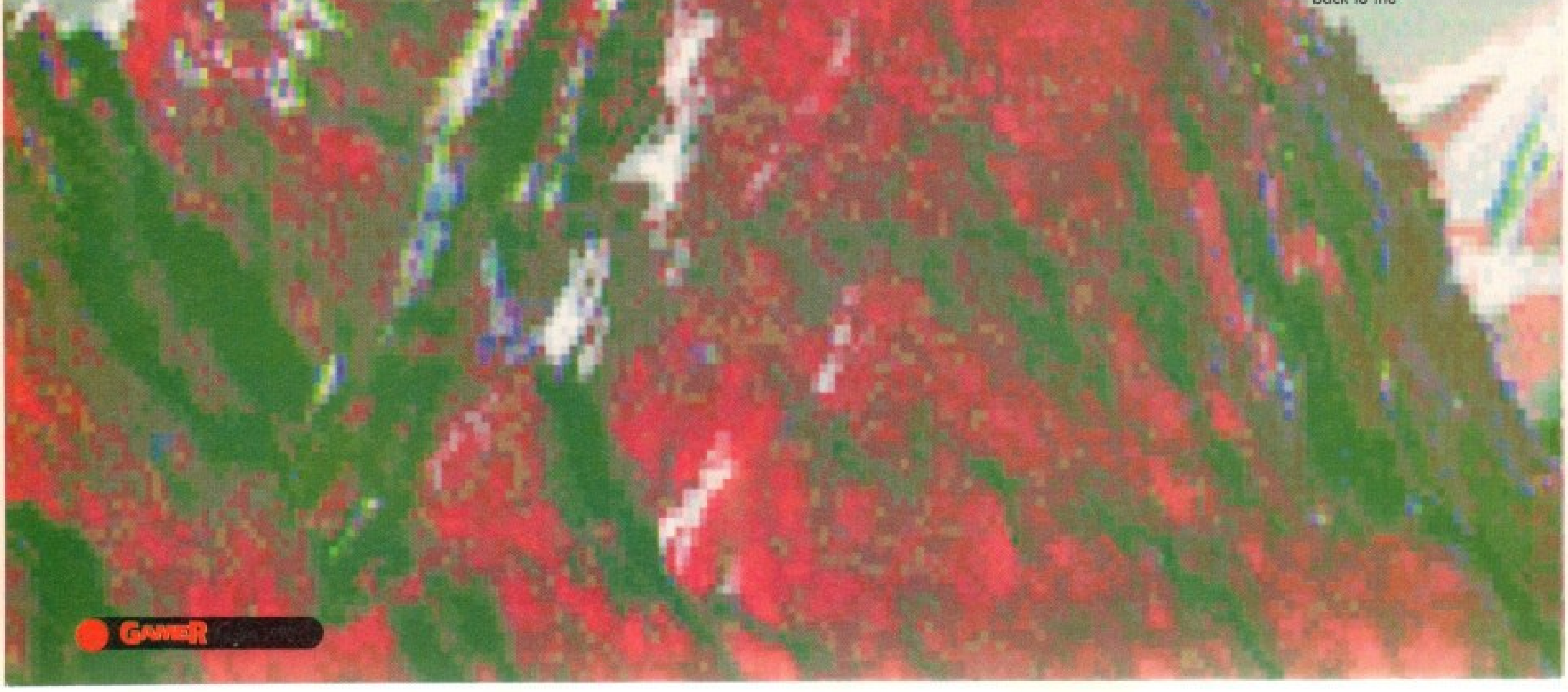
Go through the opening in the distance. You will be confronted by a baddie through the archway, so fireball him. If you are running low on energy at this point, go back and refuel – remember that the zombies you killed previously will regenerate. Find the correct combination of levers to gain an exit from these two corridors, at the end of which there is along corridor with a T-junction. Some Blue Ghouls will appear from nowhere and attack you; defeat them with your team. The left-hand exit has some oil to be collected.

The right-hand exit leads to some more ghouls and a spiral corridor which terminates with a key and a transporter which will take you to the next dungeon level. Now is the time to recharge again because there is plenty of work to be done before you complete the game.

Use the teleport to go to the second level, immediately go left and left again into a corridor with a lever and a door in it. This is the gas chamber, so give each of the party a drink of the "worgaz" potion to protect them. Once you've done that pull the lever, this will allow gas to enter the room, but the door will now open.

Search everywhere because there is a lot of treasure to be found. At the other end of the room is another lever; pull this and you are now through the gas chamber. There are two exits to this room, both of which are guarded by some very deadly skeletons.

Search both exits and you will gain more treasure and a key. Now head back to the



gas chamber – remember to use the correct potion again. Return to the teleport room that you first arrived at, strengthen your team and the head South. After not too long you will come across a treasure box and a corridor to the right. Contained within in is a Demon.

Protect your team of adventurers before attempting to kill it. This diamond-shaped room contains two doors for you to search behind. Travel East from the diamond-shaped room and you will come across a lever. Pull the lever and travel down the corridor to the West and you will find some oil. Carry on West and then turn South and you will have a choice of three corridors. Each one leads to the same room.

This room contains the last runic tablet – however, it is guarded by lots of spiders. There are also two hidden rooms; one to the South and one to the North. Now go back to where you pulled the lever. It might be a good idea at this point in the game to go and recharge all the members of your team.

In the big room facing the lever is a maze complex containing more treasure, oil and another room containing a talisman (it looks like a jewelled broach). While you were wandering around you should have found a wall with three levers.

These levers operate the last barred gate – it is the outside two that need pulling. You can then travel up the last corridor and be met by Medusa. It would be a very good idea to use the "brain wash" potion again and then go and kill her.

Be extremely careful though because around the next corner is her pet dragon who will take some killing. Finish him off and then strengthen your team. You will now need to be wearing the monk's robes – after this transport there is no going back! Kill the monk and then use the transporter.

You will arrive in a very long corridor which is guarded by three powerful monks, if you've got the potions to recharge your team's psychic energy then now would be a good time to do it.

After this you will confront Krogh himself, so protect your team of adventurers and use the anti-Krogh spell, hit as often as you can with any weapon you can, because he has many hit points (the magic sword takes off 720 points) and with any luck you should survive having killed him.

The defeat of Krogh means that your adventure is at an end and Ishar is sadly long gone and completed. Have no fear though because Ishar 2 is out now and no doubt your thirst for adventuring will continue...

● *A big, big thank you goes to David Wing for supplying Gamer with this full solution to Ishar He gets a lorryload of free software for his trouble.*

'Ere, do ya want some free games?

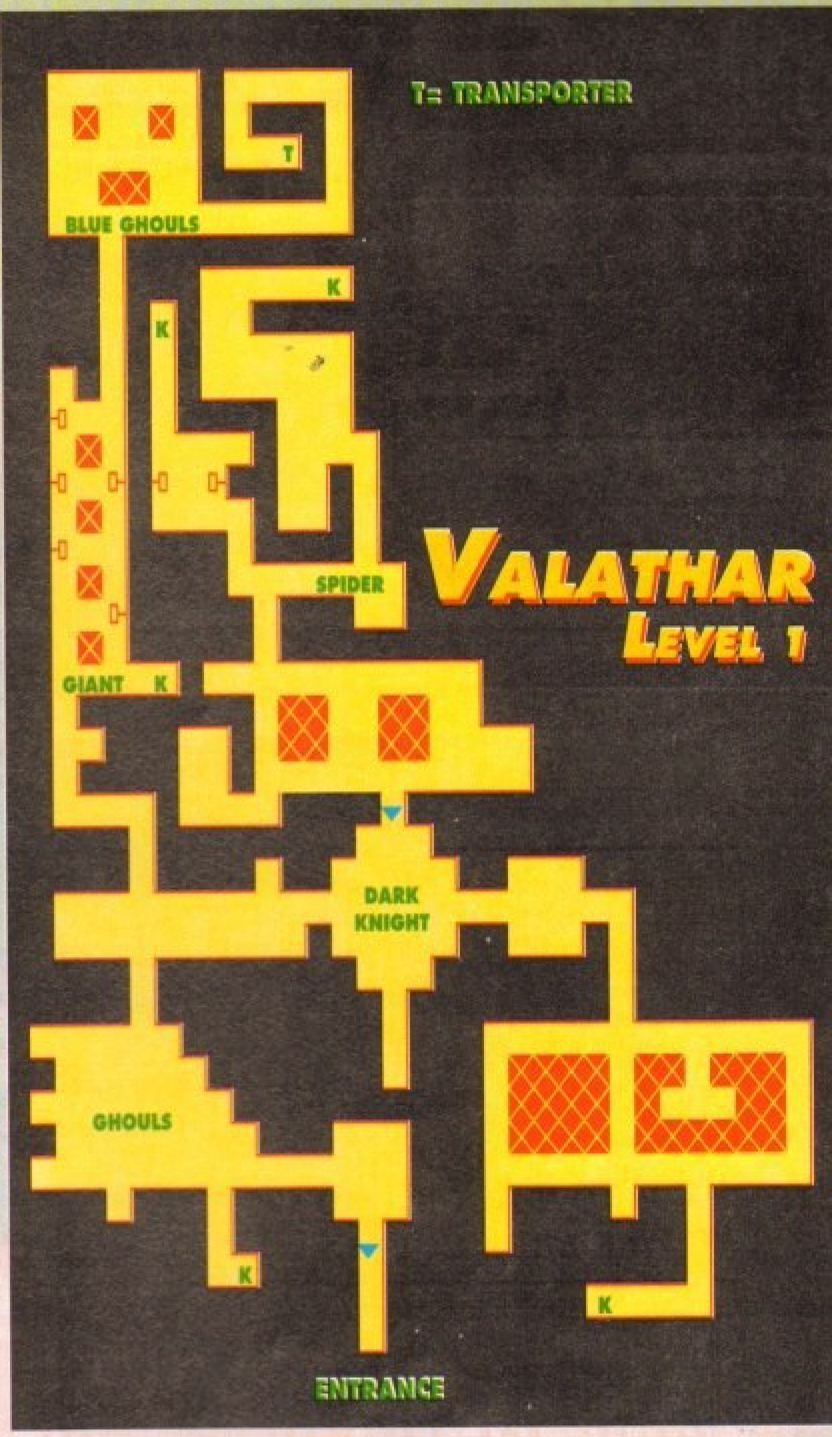
Can you complete games in less than a nano-second? Are you a computer games God? Well, if you answered yes to these questions then why not write to us chaps at *Gamer*, so we can share your supreme intellect with all those other hapless gamers?

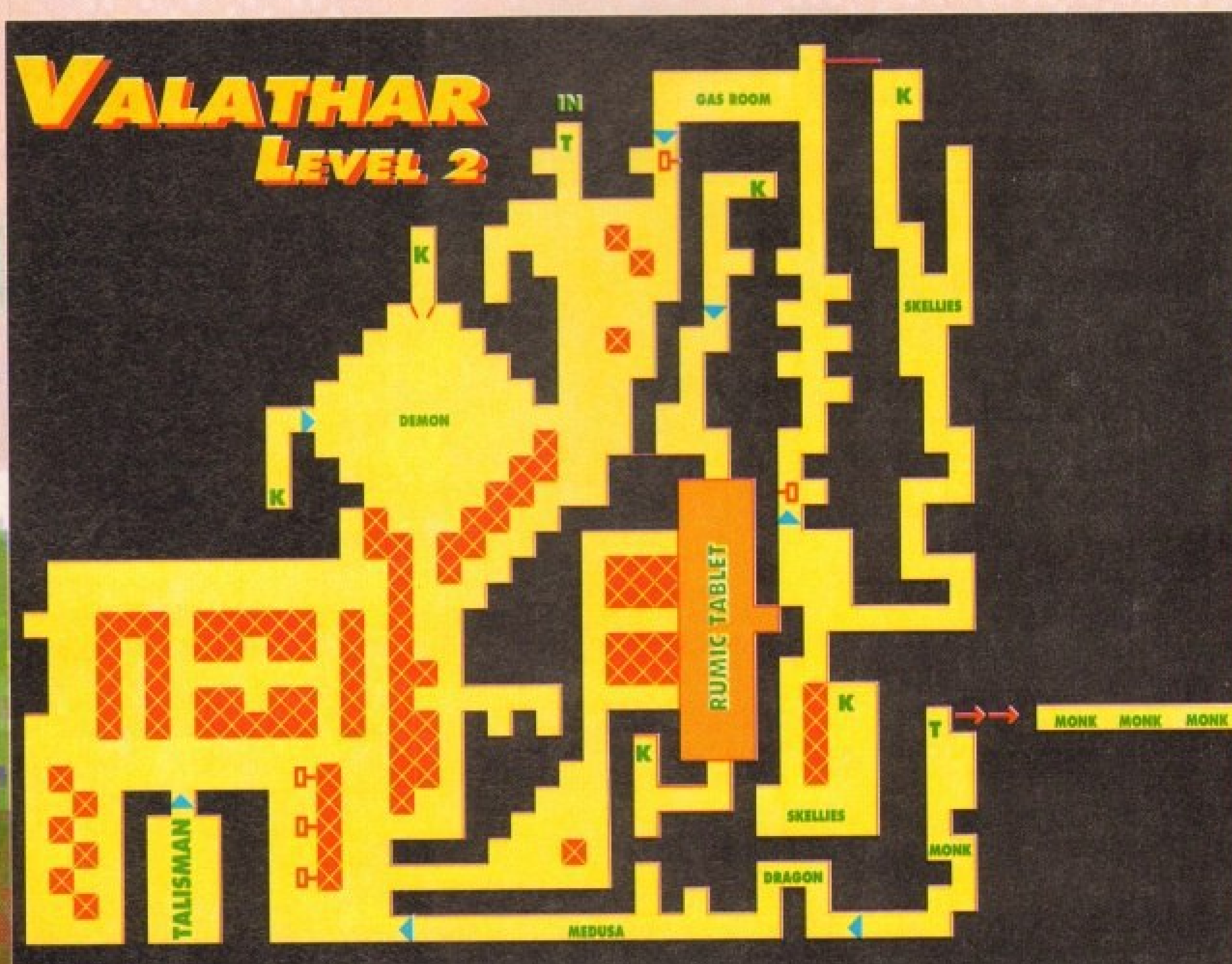
If your solution is used in the mag we will quite happily send you some software, but better than that you will receive a highly limited edition *Gamer* badge to impress your friends and family with.

We will accept the solutions sent in any media, such as computer printouts or even the actual text file on a disk. If possible a couple of maps would be immensely helpful, but make sure we can make sense of them.

Write to us and together we'll making the gaming world and happier and more peaceful place. Send your stuff to:

Gamer – It's the best mag ever and I applaud it, at Amiga Computing, Europress Enterprise, Adlington Park, Adlington, Macclesfield SK10 4NP





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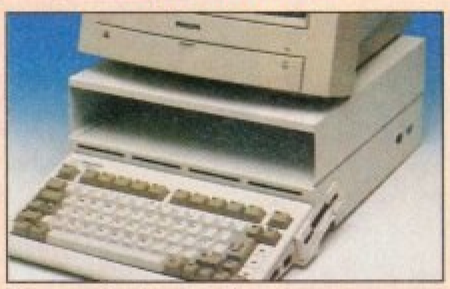
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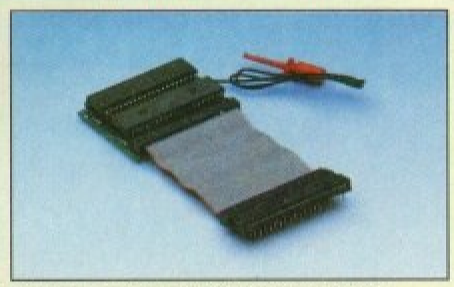
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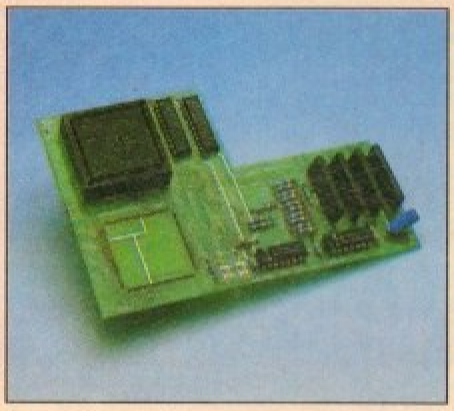
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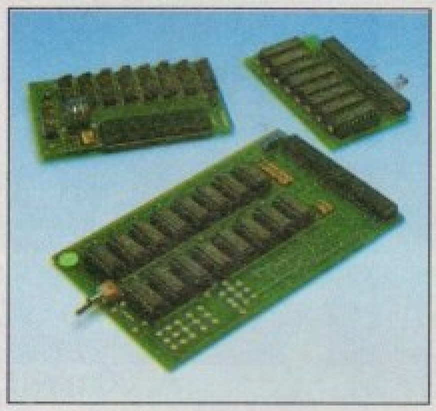
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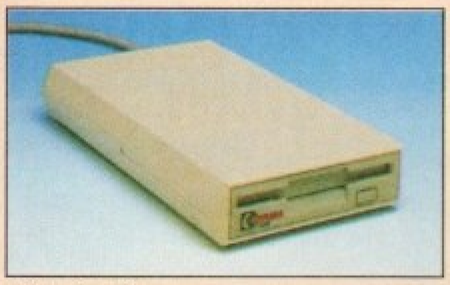
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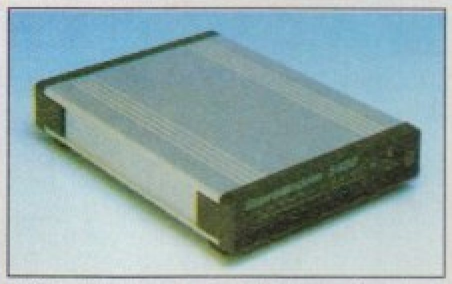
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AMIGA insight

Expert views on the latest applications

Keep

In previous issues I've mentioned that it is possible to remote control the Amiga using ARexx. In this issue we will look at ARexx programs that allow you to call up your Amiga from a distance, using a modem and another computer, and make it do useful tasks (no, you don't have to take your Amiga to a disused airfield...).

There are several areas in which the remote control of a computer could be useful. One of these is the collection of data that has to be relayed back to a base machine; another is the remote operation and monitoring of equipment.

There is also the more traditional use of a "bulletin board", which may serve several users as a common forum. All these require the host computer to act on the basis of information it receives externally.

In our overview, we will provide an outline of how ARexx scripts may be used for remote control with a terminal program, but we will not give any specific scripts (other than examples), as these will vary with different user setups.

You can use the ideas demonstrated here as a skeleton for your own custom requirements.

Before we go any further, please note that you should be familiar with three different subjects before you try operating your machine from a distance.

Basic knowledge

Along with a reasonable understanding of ARexx, you will need a command of AmigaDOS (no pun intended), and a grasp of the bare essentials of communications, including the hardware involved.

You don't have to be an expert, but you should know the difference between the parallel and serial ports, and what a baud rate is.

Since this article is about ARexx automation, we cannot give the other two subjects anything but the briefest attention. I do not recommend a project like this for absolute beginners! On the other hand, it is not too difficult, and you can learn a lot about your machine by doing it.

There is a certain satisfaction in connecting up two machines successfully, and even if you only do it at an elementary level, it will give you an understanding of the principles involved, and demystify the whole field.

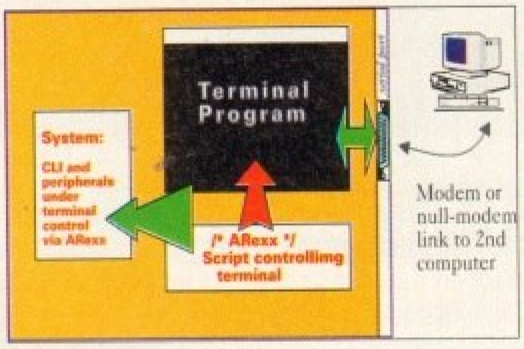
The requirements for a system like this are, firstly, two computers, with modems and terminal programs. The second computer need not be an Amiga; it could be a portable, an old 8-bit or a PC - anything really - but it must have a serial port that can support a modem.

If you are making a direct connection between the machines, then the port should be RS232 or compatible. You should check this, especially if you are using an old 8-bit machine. If you are in any doubt whatever check

What you'll need...

To experiment with these ideas you'll need:

- **An ARexx-compatible Amiga terminal: NComm, VLT, Term or TermII. All are available in the Fred Fish library.**
- **The fifo.library distribution, if you want to use VLT's pipes. It is available on Fred Fish 588**
- **A second computer, and a modem for each computer. The second machine need not be an Amiga.**
- **A null modem for initial experimenting.**



A simple system setup

with a local comms expert.

We also need an ARexx-compatible terminal for the Amiga. This is the key to our setup, and we consider some suitable terminals below.

Our basic system is illustrated in Diagram I. Incoming signals from the modem arrive at the Amiga's serial port, and are received by the terminal program. The terminal itself is controlled by a script program (ARexx or otherwise), which does the actual processing of the incoming signals.

There are two loops in our program. First is an endless loop that waits for valid incoming signals; these could be things like the phone ringing, or the establishing of a connection.

Secondly, once the connection is established, we need a loop to process the commands that the Amiga receives. In addition to the above, you might want some form of password control.

There is one more important point to consider. When the terminal is waiting for a call, we want it to continue waiting, no matter how long it takes! However once it answers a call, we require some sort of safeguard, that will allow it to shut down and go back into the "waiting for a call" loop.

This can be achieved by forcing a shutdown if there has been no activity for a certain length of time. We can then assume that the connection has been broken, and we should hang up. We therefore have to program two different reactions to prolonged periods of inactivity (this is the meaning of the two lines SET TIMEOUT and RESET TIMEOUT in our pseudo-code below).

The following pseudo-code shows a very simplified implementation:

```
LOOP 1 (wait for any signals)
IF incoming signal is valid THEN
SET TIMEOUT
ANSWER PHONE
CHECK PASSWORD(Break out if wrong)
Start processing:
LOOP 2
SEND A PROMPT
WAIT FOR INCOMING LINE
... Process incoming lines(commands)...
... (Break out if command is "BYE" )...
END Loop 2
HANG UP
RESET TIMEOUT
ENDIF
 END Loop 1
```

For instance, suppose you have a hypothetical hardware device connected to your Amiga which makes coffee! Normally this device is activated by a CLI command, or an ARexx program called "coffee maker". The terminal could

then be programmed to run the "coffee maker" program whenever it received a special command, eg "Make Coffee". You could then ring home, and have your coffee ready by the time you arrive. Of course, this is a trivial example, but it gives you the general idea.

Even if you do not have two modems, but you do have two computers, and you want to experiment with some of these ideas, you can do so using a so-called "null modem".

This is simply a cable for connecting two compatible serial ports, where the lines for sending and receiving data are switched around or "reversed".

Terminal software

A suitable wiring diagram for connecting the serial ports of two Amigas is shown on this page. Alternatively, you can buy ready-made null-modems off the shelf at your local electronic hobby/components shop. Make sure that they are compatible with your machine.

Finally, we get to the most important bit, the terminal software that will be running on the Amiga. As we have already seen, this program will perform the following functions:

- Monitor incoming information.
- Run our ARexx program that knits everything together.
- Relay our commands to the system.

It will also probably run unattended for a lot of the time, so it should be reliable. There are a number of very good terminal programs available on the Amiga. Among them I would list NComm, VLT, Term and TermII. Most of them are available

your distance

Alex Gian tells how to use your Amiga by remote control. It's all down to ARexx, of course...

under the shareware system and can be found in the Fred Fish library.

All of the above programs are well featured, and have good reputations. My personal favourite is VLT, because it allows sophisticated use of redirection pipes, which permit the running of a remote CLI. It is also free. It has, however, caused me some troubles with transfer protocols that I have not yet sorted out.

Script language

The most popular terminal is probably NComm, which is well known, stable and cheap, and is probably the best bet for a beginner. Try to ensure that you are using the latest version. My apologies if there are any other good terminal programs I have not mentioned. There could well be!

Most good terminal programs have some kind of script language for the purposes of automation. These languages control the input and output to the serial port, and other terminal-related functions, like downloading, uploading, protocol, speed settings, and so on.

They also have basic looping and decision (IF) control structures. On the Amiga, most of these script commands have a parallel ARexx version.

What, then, is the advantage of ARexx? Why not just use the regular script language? There are several reasons:

- ARexx is an established language, with powerful control structures and versatile commands. No matter how good a scripting language is, it will probably be more awkward and limited than ARexx.
- ARexx can provide access to facilities that a terminal language is unlikely to have, including numerical computation.
- An Amiga user is more likely to know ARexx, and does not have to learn yet another new syntax.
- ARexx is integrated with the system, so that you can control other programs that are multitasking on the Amiga, even from a remote location. This is probably the most powerful of the available features.



If you use ARexx as the script language, you also have the advantage of its excellent parsing facilities: for instance, in the example we mentioned above, it would be easy to handle a command like "Make Coffee with two sugars"!

ARexx also allows us to implement support for bulletin board systems (BBSs) at many different levels.

We now look at a simple code fragment for the NComm terminal. It checks the incoming data for the string SERVICE PLEASE followed by a carriage return.

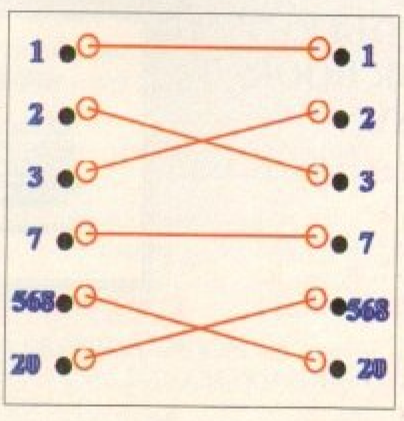
If it is found, the user is prompted to enter a command, which the program then repeats in uppercase. If the command "EXIT" is entered, then the terminal goes back to waiting for "SERVICE PLEASE". NComm uses two commands for the serial port, WAIT and SEND.

```
/* simple NComm loop */
OPTIONS RESULTS
ADDRESS 'ncomm'
DO FOREVER
test = ''
WAIT 'SERVICE PLEASE' || '0d'x
DO FOREVER WHILE test ~= 'EXIT' || '0d'x
SEND 'Command Please:\r'
WAIT '0d'x
test = RESULT
SEND Upper(RESULT)'\r'
END
END
```

A code fragment like the above gives the simplest view of the communication possible between two machines. If you link up the two computers with a null modem, you can try this for yourself.

You can also use this as a test to make sure that the two terminal settings are synchronised - refer to your terminal's documentation.

Next time we will go into some of the more technical details, including remote control over the phone and an overview of BBSs.



Wiring for an Amiga null modem

Multiple choice

Paul Austin attempts to lead the chronically confused through the veritable minefield of renders and ray tracers

With the huge array of renders and ray tracers flooding the market, picking the right package has become increasingly difficult; a factor that's been compounded further by the degree of excellence inherent within all the recent releases.

In a nutshell, the choice boils down to differences between ease of use, realism and animating potential. Obviously there are other factors such as speed and flexibility, but the big three tend to sway the average buying decision.

In this month's column the aim is to side-step the technicalities and concentrate on practical application – hopefully targeting the perfect solution to your particular videographic problem.

Imagine2

To be honest I must admit to being biased towards Imagine courtesy of prolonged use. However considering I've had the opportunity to twiddle extensively with every package on the market it's perhaps a testament to the staying power of this truly excellent program.

However if we put the back-slapping aside it must be said that Imagine2 isn't without its faults, most obvious of which is the program's fairly poor anti-aliasing.

In addition, the accompanying manual is also something of a disappointment which potters along in a narrative rather than informative style making comprehending this already complex and somewhat idiosyncratic package even more daunting.

However even with these drawbacks Imagine2 offers a degree of modelling, mapping and animating freedom that can only be matched by Real3D v2 – a program which is at least three times as expensive and much more difficult to master.

Another bonus for Imagine is its ever-increasing third-party support which includes the excellent *Understanding Imagine2* reference manual, which for around £20 will solve the aforementioned manual problem instantly.

In a nutshell, Imagine2 is probably best described as perhaps the ultimate enthusiasts' package capable of startling animation and photo-realistic imitation of the real or virtual worlds.

However be warned that there's a rather steep learning curve that demands dedication – but in return can provide award-winning results.

Real3D Classic

Formerly known as Real3D Turbo – prior to the release of Real3D v2 – Real3D Classic was the main contender against the onslaught of Imagine2. Being a convert from Real3D to Imagine2 I can see the relative benefits of both systems.

Although both are employed by professionals with equal relish I'd say that Imagine2 would be more to the taste of the purist who wants believability and doesn't mind investing time and effort to get it, while Real Classic provides a somewhat easier method of producing very high quality corporate logo material, which although excellent lacks the subtlety of a similar Imagine image.

The primary cause of this slightly artificial look is Real's dependence on primitives which tend to lend to a slightly Lego-esque look to the final image or anim – a factor which isn't helped by the relatively basic mapping options that don't allow the multiple maps of Imagine, Aladdin 4D or Real3D v2.

Animation is again slightly lacking in comparison to Imagine primarily due to the added flexibility offered by Imagine's Cycle editor.

However it must be stressed that Real Classic is by no means basic when it comes to animation and when this is combined with the best anti-aliasing on the market, the program's appeal for corporate applications is pretty hard to ignore.



Caligari 24

Due to the three pages devoted to Caligari 24 in the main mag, a detailed analysis would be a bit silly. However a quick "in a nutshell" overview might be useful.

Unlike the other packages, Caligari is a renderer, not a ray tracer. This simply means objects will reflect the sky and the ground but not other objects in the scene.

In practice, the end result is that real world emulation doesn't match up to the others – but to be fair that isn't what Caligari is intended to do. In short, Caligari is the ultimate corporate anim generator. Courtesy of the program's relatively basic rendering and mapping options, it will never match up when it comes to clever images.

However that's probably a fair price to pay for the best modelling and animation environment on the market. If you're purely interesting in graphics that will animate beautifully but always look computer-generated, Caligari is the perfect combination of ease of use and power animation.

Aladdin 4D

Although very respectable as an all-rounder, it must be said Aladdin doesn't really justify its rather inflated asking price of £255 – a figure which is roughly double that of both Imagine2 and Real 3D Classic.

In addition to the financial insult, modelling is fairly basic in comparison to its counterparts with the most damning blow being struck by the totally lack of freeform editing – which again is offered by both of the above.

On the animation side it's pretty much the same story with good but certainly not spectacular results which lack the intuitive touches offered by Caligari and to a lesser extent Real and Imagine.

Having said that, Aladdin isn't without strong points, with the most notable being the generation of gases; a feature which can produce very impressive static and animated images.

However as seems to be case throughout Aladdin, there is a compromise – which in this case takes the form of very slow rendering.

Continuing in an animated vein, it must be stressed that mapping isn't one of the program's faults thanks to an unlimited number of textures, which can be morphing and animated as and when required.

All in all the bottom line points to a pretty good package which unfortunately suffers badly when it comes to value for money when compared to the majority of the opposition.

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Speak to me

Margaret Stanger has some useful advice on how to teach your Amiga to answer back!

This article concentrates on Amiga speech. The demonstration program converts Ascii text files into words spoken out loud by the computer.

This is a two-stage process. First the text is translated into unique sounds or "phonemes". During the second stage each phoneme is narrated as an audible sound by the Amiga.

The Amiga phoneme notation has symbols to represent each possible unique sound (part of a word). These phonemes are similar in principle to those used by linguists in the study of phonetics.

There are separate symbols for each vowel, consonant, and any special modification resulting from other sounds in the syllable. The symbols used by the Amiga phonemes are restricted by the use of the Ascii character set, and made up of capital letters and numbers.

Haphazard translation

The disk-based Translator library consists of the routine Translate() which reads text and outputs the corresponding phonemes.

Some words are not pronounced as they are spelled; the results can be incorrect for the less common anomalous words. For example, the Amiga pronounces "could" to rhyme with "wood", but pronounces "pearl" to rhyme with "heel".

The Amiga does not contain phonemes that are not present in American speech, and translation from non-English text can be a bit haphazard.

The narrator device is a program package, constructed to allow the Amiga to express itself verbally. A device communicates with the program using a IOStdReq structure, or input/output request parameter block, containing a reply port for the message from the device.

The parameters for the desired function are entered in the structure, then the device operation is started with the SendIO() or DoIO() function.

The narrator has its own extended IOStdReq, the narrator_rb. For the demonstration program the device is opened first, and then the message port and I/O block initialised. The Exec Support Library functions CreatePort() and CreateStdIO() available to C programmers were not used.

The device is opened using the OpenDevice() function with a pointer to the name of the device, and a pointer to the I/O structure. The I/O structure contains a reply port – this reply port should be set up as a message port, with no flags, and should have a signal bit allocated.

Narrator structure

The SigTask structure member must be the pointer to the current task, and the message list header should be initialised with NewList(). The I/O structure node should be given a pointer to this reply port (mn_ReplyPort), and the total length of the extended I/O block (mn_Length).

Programming is similar to that for other devices. The read request can return the relative width and height of a mouth producing the current sound, into an extended narrator structure, or mouth_rb.

The write request will result in an audible sound for each phoneme in the data buffer. It does this by either sending a write request to the audio device, or programming the audio registers directly.

Two separate audio channels are used to make the sound. The narrator device contains sound samples for each phoneme, for male and female voices speaking in natural (inflected) or monotone (robotic) mode.



As with any audio request, it is possible to vary the volume, pitch, and sample frequency of the sound. In addition, the rate, or number of words per minute can also be varied.

If these parameters are not specified in the write request block, the Amiga defaults to a male voice speaking at full volume in natural mode at a pitch of 110, a sample frequency of 22,200, and a rate of 150 words per minute.

These defaults, and the range of each parameter, can be obtained from the header include files narrator.h and narrator.i.

It is necessary to specify which combinations of sound channels are to be used, and how many combinations. The demonstration program uses four possible two-channel combinations.

For each write request it is also necessary to specify the address and length of the input buffer containing the phonemes.

A non zero return code from the write indicates an error, there is useful list of the codes in the header files, and the structure member, io_Actual, gives the position of the offending phoneme in the buffer.

For Assembler programmers, there is no handy formatted print routine, so a programmer would have to provide his own. Also the user would need to be prompted for the text file name, instead of using an extra argument on the command line.

Library routines

The narrator device, the Narrator input block and the message port would be opened and used in exactly the same way as for the C program. Translating the text into phonemes, and speaking the result, would be done by the same Library routines as in the C program.

Computer speech can be useful for educational programs aimed at young children who would not be able to read text from the screen. Visually handicapped people who work with computers also need the Computer speech facility, and speech can also be used to enhance multimedia computer-based training.

Computer speech can be very valuable to enable some handicapped people communicate with the rest of the world; they can input via the keyboard or graphics pad, and the computer can speak the words for them.

Amiga speech featured in earlier Amigas, but not in later versions because the disk space was needed for other features. The translator library and narrator device can be found on upwards-compatible assemblers and compilers like Devpac and SAS Lattice C.

Due to pressure of other commitments, I will not have enough free time to write any more Programming pages. I have very much enjoyed writing for *Amiga Computing*, and I wish *AC* staff and readers all the best for the future.

Margaret

The next generation...

Paul Austin looks at the latest releases and upgrades in the Amiga music scene

The release of the long awaited mid-range Amiga has been the event many a serious muso has been longing for since the terrifyingly expensive A4000 hit the streets.

Although this new machine has no obvious link to music it does provide a platform – which the serious user can firstly afford, and more importantly expand upon.

Although the A1200 has great potential as a first step, the lack of Zorro slots does present a flexibility problem which only an ageing 1500 can really provide a cure for.

On the other side of the coin comes the aforementioned A4000/040, a machine with all the flexibility and speed you could ask for but slapped with a price tag that simply doesn't justify the investment – if your exploits are primarily musical.

Enter the new A4000/030, housed in exactly the same box as its bigger brother but boasting an 030 CPU as opposed to an 040. For most musical endeavours the effect of a slower CPU will be negligible while the expansion slots offered by the desktop design means that you won't be left out as the technological advance marches ever onward.

Apart from the infinitely more attractive price tag and easy expansion the new machine also offers a potentially unlimited upgrade path - at least as far as the CPU is concerned. Like the A4000, the existing CPU sits astride a daughter board which when you decide to upgrade could be easily popped out and swapped with an 040 or perhaps 060 replacement.

However even with its advantages, this apparent dream machine isn't without its problems – most notable of which is the lack of a monitor as part of the £1,000 asking price.

In addition in its standard form there's no FPU provided – which means heavy number crunching applications such as ray tracing suffer quite badly.

On top of that you only get 2Mb of RAM as standard, which isn't very much considering the potential of the machine. However it must be said there is a silver lining in the form of an 80Mb hard disk – as standard – which should be more than enough for the average muso.



The DSP returns

After the rumours surrounding the release of a DSP – digital signal processor - within the A4000, and the subsequent disappointment as it failed to appear, I've become very sceptical about the entire subject.

However according to a confidant of the Commodore hierarchy the aforesaid chip is already up and running and more than ready to make its debut in the autumn.

As yet it's still unclear how existing machines will be upgraded but the most likely option will be to add the chip to the existing CPU daughter board – perhaps through a trade in offer. It's even being rumoured that the AAA chipset is destined for launch in the spring of next year, boasting a DSP as standard along with true 24-bit graphics all based around an 060 processor.

Even more bizarre are the whispers of an A5000, which according to industry gossip will boast a RISC-based CPU alongside a pentium chip – which of course powers a killer PC that will consummate a harmonious marriage between the two machines.

A Commodore spokesman went on to add: "Yes I have indeed smoked pot.

"But of course, I didn't inhale any..."

Upgrades a-go-go

Blue Ribbon bug fix

With the profusion of hardware and software releases in recent months, the inevitable barrage of upgrades are well on the way, with perhaps the most notable being an array of add-ons and updates to Bars & Pipes Pro2.

Although still in the pipeline, the first update has already arrived offering an assortment of minor bug fixes. However the aforesaid fix will not be sent out automatically, so if you're an existing user and feel the need for the update contact the new Blue Ribbon technical support on 081-332 6959.

All upgrades and postage are free of charge – all you need do is drop the coil and dial.

In addition to the bug fix, Blue Ribbon are in the process of releasing a new collection of tools designed directly for Media Madness, as well as additional standard tools for the program's Midi exploits.

SunRize samplers

On the harder side of life, rumour has it that SunRize are in the process of developing a cheap and cheerful variation on their rather pricey 16-bit direct-to-disk sampling system. Although nothing is confirmed the plan seems to revolve around removing some of the subtleties of the original such as SMPTE support and maybe the built-in DSP.

The end result will be a basic but quality product which should retail around the £300 mark. As ever things may change dramatically as time passes but if you're in the market for an affordable direct-to-disk system it may be worth contacting Meridian Distribution for more details.

As existing users may be aware HB Marketing – the original suppliers of the SunRize range – are now no more. As a result Meridian have taken on sole distributors of both the 12 and 16-bit samplers – and will no doubt follow suit with the new cut-down 16-bit system when available.



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systems. Considering the often tetchy nature of telephones in general, and computer communications in particular, I was half prepared to spend an entire day struggling with baud rates, phone line initialisation, voltage disparities, and so on, but PhonePak provided a pleasant surprise by way of its smooth, trouble-free installation.

After only half an hour or so, the first time user should be well on his or her way to setting up their first infuriatingly nice computer receptionist.

This is achieved via the VFX control panel and its built-in Operator script language. The user creates mailboxes (in reality these are sub-directories on hard drive), then proceeds to the Switchboard screen to form the links between them and group them into systems.

Each mailbox has its own particular characteristics, its own greeting and other system messages, and its own status. Mailboxes can be either message receiving (in which case the user specifies a maximum message length when creating the mailbox) or the information-only variety, which do not record a caller's messages (message length set to zero).

SWITCHBOARD

Routes from one mailbox to another are also set in the Switchboard screen, and as there are up to four digits to play with, each mailbox can theoretically have as many as 9,999 links to other boxes.

The user need only specify which number is to be keyed in and click on the mailbox to which the caller will be transferred, making it easy to quickly set up the links for a complex chain.

Each mailbox can be set as IN or OUT at any time, so that during busy periods it is possible to shut certain boxes off or, if PhonePak is controlling an internal phone system, close down certain extensions.

In this case it is possible to set a default route which a call will take if a mailbox is closed, so that the caller hears a "sorry, too busy to bother with you" recording instead of the usual answering message.

All system messages, assuming the user doesn't want to use the pre-recorded American voice, can be recorded (sampled) directly from the phone attached to PhonePak into any mailbox list of system messages, so any and all sorts of customisation is possible.

Samples from other sources can, of course, be used, so the prospect of Bogey answering the phone with the line "Spit it out, wise guy" is all too terrifyingly real.

Music, either as background or for hold tunes, can be incorporated as long as it is in standard IFF 8SVX format, so no two PhonePak systems should ever sound the same.

> *The script language is tedious, but flexible and effective*

A drawback with such messages is that when a system uses many different samples the strain on a small hard drive can begin to show. The default messages supplied with PhonePak won't leave much change out of 1.5Mb storage, but some of these will never be used and can be deleted.

Storage space really begins to bulge when more than one mailbox in a system contains long sampled messages. Using the control panel, owners can move samples across from mailbox to mailbox, but it would have been better if this sort of duplication could have been avoided.

A simple assign to order the Amiga to look in a set directory for all samples would have been a more economical solution to the problem.

Setting up an answering phone system which would enable the owner to phone and listen to his or her messages, record the voices of anyone who phones, and have a separate sub-system for business calls would be a simple matter.

From the initial mailbox, a sample offering two choices (business or private) filters off the messages into their relevant mailboxes, while a third option leads to a box with no message facility and a simple message giving more information about the user's business.

SAMPLES

So long as the user ensures all samples match the routes he or she has created in the Switchboard screen (pressing "1" really does take you to the business mailbox) there should be few problems.

In many ways, the advantages of putting messages into the correct mailbox is a godsend. Password protection – a four-digit dial tone can be assigned to each mailbox – makes it impossible for one family member to listen to the other's calls, and the business messages can be kept separate from everything else. No more playing through interminable messages from the kids' friends in search of that important call from the boss!

In terms of flexibility and power to handle the user's demands, PhonePak is hard to beat, but there are drawbacks. A hard drive is an essential, and setting up the more complex or advanced features can be a pain.

The manual section covering faxes is, as mentioned, well nigh incomprehensible and split over three different chapters, though this will hopefully be fixed when the planned manual rewrite takes place.

When the price of £399 is taken into account and weighed against the cost of a fax and answering machine, PhonePak becomes a realistic option for businesses or those who work at home.

Bringing with it as it does the power to automate information systems, answering services, paging, faxes, and call transfers, there is precious little else for it to do except perhaps put its human counterpart (the receptionist – less efficient but friendlier and more flexible) out to seed.

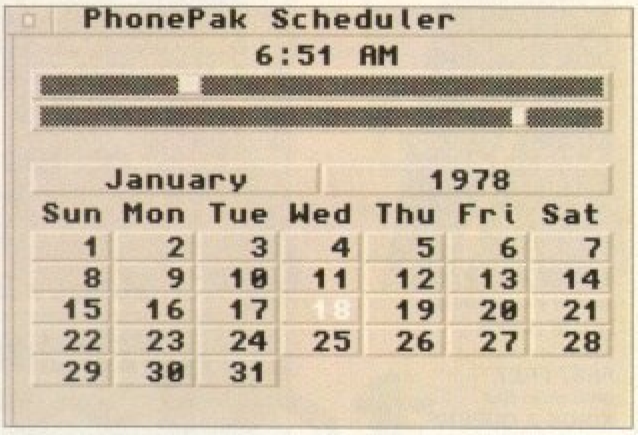
Hello? Operator?

PhonePak's built in power comes in the shape of the Operator script language which can be used for just about every operation one might want to carry out with a telephone, with the obvious exception of the 3am phone call. I mean, try getting an Amiga to throw the phone across the room and out the window.

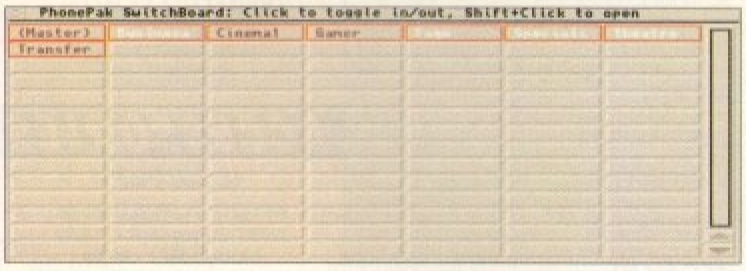
Operator scripts are called from the transfer function which can either be set when a mailbox is created or when the user updates the box.

Typing a string of commands might sound an old-fashioned and clumsy way to control a modern piece of telephonic electronics, and it is, but the flexibility which Operator brings to PhonePak makes this exercise in tedium worthwhile. Commands cover everything from making a line off or on-hook, waiting for dial tones, dialling numbers, playing messages, and so on, and the manual is full of examples of how this power can be utilised.

Paging a person who isn't at his or her desk is one excellent example. Using a script which plays a ring tone to the caller while playing a sample along the lines of "Call for you!" from the Amiga's monitor or TV speakers, then waiting for a certain length of time before playing an apologetic sample and hanging up should demonstrate how much flexibility there is in this system.



Faxes can be sent immediately or scheduled to arrive in the early hours (he! he!)



Switchboard enables the creation and management of whole systems

Fax needs fixing

The way PhonePak handles faxes is probably its weakest link, in software terms at least. In common with Supra fax modems, it utilises either a straight import of Ascii text and IFF graphics or a faxprinter in the shape of the PPakFax printer driver, but the resemblance ends there.

When printing from any program which uses the faxprinter, a high definition image of the printed page is saved in a mailbox of the user's choice, but the awkward way of attaching a phone number to the fax when printing it causes frustration.

Most fax users will create a fax then scribble the number on it before shoving it in the fax machine rather than sit with an address book open in front of them all day.

Finished faxes are sharp and detailed, but the software by which they are created and despatched could do with some extra work. Given that faxes with voice messages attached are one of the supposedly hot new items for these systems, the clunky fax function is a bit of a disappointment, though not exactly catastrophic in extent.

SYSTEM ESSENTIALS

RED = Essential YELLOW = Recommended

1 Mb RAM — Hard drive — Zorro

3 Mb RAM

The bottom line

Ease of use 7
Implementation 7
Value for money 8
Overall 7

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The plot thickens

Phil South looks at drawing techniques and the Amos mailing list, plus all the latest news

You've probably never really used the drawing capability of Amos before, which can be used for all manner of things, like this example which is a quick and easy way of creating a title for your programs:

```
Paper 0
Box 0,0 To 319,100
Box 2,2 To 317,98
Locate ,4 : Centre "Amos ALMANAC"
Locate ,6 : Centre "by Phil South"
Locate ,12 : Centre " Snouty (c)1993 "
```

It draws a couple of boxes, with a two-pixel gap between them, and it then positions a few lines of text with the last line overlapping the box at the bottom.

Simply type your program's title and your name into the Centre print strings, and you're away. You can go further with this kind of thing:

```
Curs Off : Flash Off : Cls 0
Paper 6
Ink 2 : Bar 0,0 To 319,100
Ink 6 : Bar 2,2 To 317,98
Locate ,4 : Centre "Amos is Way Cool"
Locate ,6 : Centre "Did you know that?"
Locate ,10 : Pen 0 : Centre " Amiga Computing "
```

This time instead of using the box we've used a bar, with one bar smaller than the other to make a border. You could make it 3D like so:

```
Curs Off : Flash Off : Cls 0
Paper 7
Ink 2 : Bar 0,0 To 319,100
Ink 8 : Bar 2,2 To 319,100
Ink 7 : Bar 2,2 To 317,98
Locate ,4 : Centre "Title"
Locate ,6 : Centre "by <insert name>"
Locate ,10 : Pen 0 : Centre " oddsoft (c)1993 "
```

Make one bar form the highlight on the top and left, and another form the shadow bottom and right. Draw one bar from 0,0 to 319,100, then the next one over that from 2,2 down to 319,100.

Finally the last one in a medium shade over both the others, leaving a two-pixel gap all around the outside to show the highlights and shadows.

Patterns make a splash too:

```
Curs Off : Flash Off : Cls 0
Paper 7
Ink 2 : Bar 0,0 To 319,100
Ink 8 : Bar 2,2 To 319,100
Set Pattern 5 : Ink 8,7 : Bar 2,2 To 317,98
Locate ,4 : Centre "Yes indeed"
Locate ,6 : Centre "A patterned fill"
Locate ,10 : Pen 0 : Centre " and no mistake "
```

Note that in order to get the Amos patterns, you must have the MOUSE.ABK file loaded into a bank, as this contains all the patterns. You'll find it in your Amos_SYSTEM drawer on the Amos disk.

Ink and paper colours must be set to suit the background that the pattern is going on. If you wanted to edit the patterns, you can do so in any sprite editor like SpriteX.

Plotting and line drawing are something else again. You can use plotting single pixels to produce anything from starfields and fractals to ray-traced images – all you need are the algorithms. Polygons are easy to handle in the same way as boxes and bars:

```
Curs Off : Flash Off : Cls 0
Paper 7 : Ink 7
Polygon 0,20 To 20,0 To 299,0 To 319,20 To 319,80 To 299,100 To 20,100
To 0,80 To 0,20
Ink 2
Polyline 0,20 To 20,0 To 299,0 To 298,1 To 20,1 To 1,20
Ink 8
Polyline 319,20 To 319,80 To 299,100 To 20,100 To 21,99 To 299,99 To
318,80 To 318,20
Locate ,4 : Centre "Who is this"
Locate ,6 : Centre "Polly anyway?"
Locate ,10 : Centre " Unaware (c)1992 "
```

So experiment with all the various combinations of these commands to produce lively backgrounds for your text. Note also you can draw simple shapes to grab as BOBs too, if you want to create a simple game that people can type in, without the need for IFF graphics.



Moving on, the Amos mailing list is still alive and kicking – I'm getting about 10 or 20 messages a week in my electronic mailbox on CIX.

Subjects in recent weeks include how to do plasma (it's not easy, in case you're wondering), how to password-protect your Amos programs by disabling the interrupts, and someone even asked about reading text in formats other than Amiga. Most of the questions get answered, but more than anything it's thought provoking. If you're not a member of the Amos mailing list, join as soon as possible! Simply log on to your BBS and send a message via external mail on Internet to:

Amos-list@access.digex.net

with the word SUBSCRIBE ME in the text. And you're away...

Next time you log on there will be a stream of text. To send messages to the stream just use the same address. To unsubscribe you just send a message to that effect. No costs are involved, just the cost of your message service – CIX or whatever.

Amos news

Where's Dave?

David Lazarek was the person to contact in order to buy things like Ctext, TOME and so on if you lived in the USA. The Amos mailing list says he no longer does this, so it looks as though we may have to look to the UK for these things. It's not known if he still handles the updates from Amos Classic to Amos Pro, but this is doubtful as at least one person has reported that it has been nine weeks since he sent his money in and David has not responded in any way. If you live in the US and need a contact for buying Amos goodies from the UK get in touch with Michael Cox:

Email Work: mcox@access.digex.com
Email Play: aj639@cleveland.freenet.edu

Amos AGA delayed

Francois Lionet, says he has been pressed to get the Pro Compiler finished , which has forced him to delay Amos AGA until September. He wants it to be a complete upgrade, not a quick patch.

Mastering Amiga Amos 2

The second edition of *Mastering Amiga Amos* is out now. This book is a companion to the Amos manual, giving you a load of examples to type in and hints and tips on all aspects of coding using the Amos system, from beginners to advanced.

For more details about this and other Bruce Smith Books call (0923) 894355.

Doing the business

Ben Pointer helps to brush up your publishing skills by showing you how to create a stationery pack

A stationery pack consists of the "forms" that a business would use from day to day. The three most common forms are the letterhead, business card and compliment slip.

The design stage of even a small project like this is labour intensive, creative process for which a copy shop would charge upwards of £40.

Some will do a plain text design for around £10, but why let them make up something drab when you create something that will sparkle?

In the first of these two articles, we'll take a look at the preparation required and note a few guidelines. The first point to look at is the overall image.

By "overall image" I mean a combination of a number of elements which convey a message about the company they represent, which will include the name of the company, a simple graphic perhaps, and the address details.

Many clients will give you a rough sketch or a vague concept of what they want in the way of company image, but taking that and converting it in to something tangible is going to require thought.

As the designer, the responsibility will be on you to ensure that the image the stationery projects gives the correct impression to the type of customer your client is trying to attract.

Even if your client tells you what they want, and you do what they want, and then when they see it they decide that what they want isn't really what they want, it will be your fault.

How do you avoid this? You can't. The best thing is to point out to your client that the estimate you have given them for the job is to do it one time. If they want revisions, they will cost more.

Once you have invented this company image it will be used on all the pieces of stationery, with only the size of the items changing.

Think carefully about what elements, or "page furniture" as it is often called, you are going to mix and match.

Designing a company logo is a big job, often the most time-consuming task in the creation of a stationery pack. The logo could be in some typeface, or it could be a graphic, or it could be a combination of the two.

Take a look at a catalogue of fonts and find one that will suit the type of company for which you are designing – a stencil font for a packaging firm, a delicate script font for a jewellers or perfumery, a serif font for a more traditional business like a solicitor or doctor, a modern sans-serif font for a forward looking business like a fashion house or shop....



It wouldn't help a jewellery firm if the image its letterheads projected gave the impression that it was a building contractor! Above all it must readable – and keep it simple.

We are surrounded by images which represent the way company logos have progressed over the years, so to get a feel for how modern logos are being designed, look at every advertisement you can find.

Try to use a simple two-colour image – not necessarily black and white, it could be red and green, or blue and pink – but it would be best if you designed it in a structured drawing package so that it can reproduce smoothly at high resolution.

Drawing it in a bitmap painting program and "auto-tracing" it is a route to disaster unless the graphic is very simple indeed – structured drawings created in this way tend to contain more points that the PostScript output device can handle.

Keep in mind that detailed graphics can often be distracting – there's a danger that if the image is too detailed or convoluted it will make the person looking at it feel tired or bored, emotions that will reflect on the image of your client.

The last piece of furniture to discuss is the text for your client's address. Over the three pieces of stationery you will have a number of pieces of text that will have to be added. It is important they fit in, so choose your fonts carefully.

To a certain degree, the rules discussed above for choosing a font for a company logo apply to choosing a font for the address, phone number and so on.

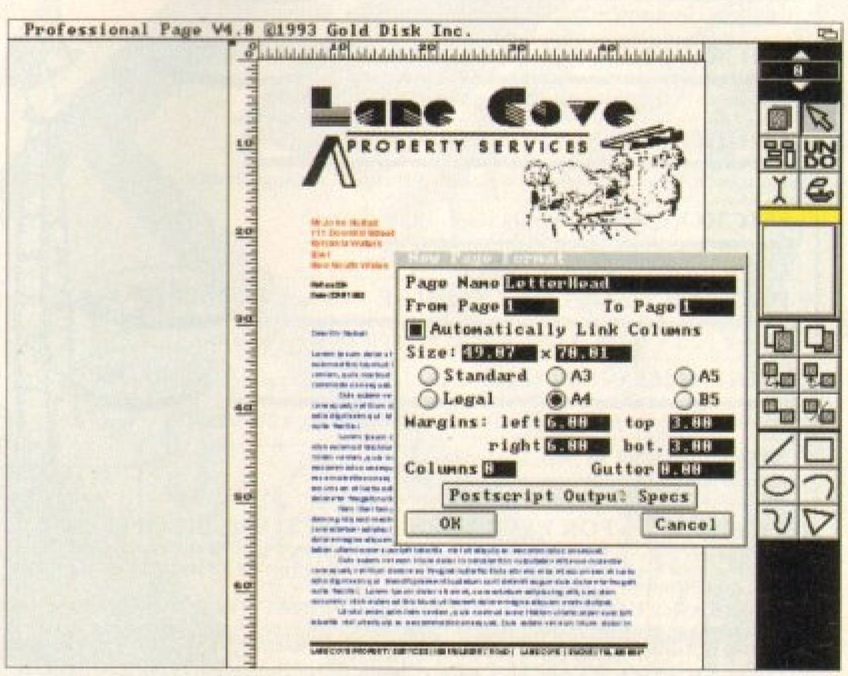
If you want to use normal, bold and italic styles, make sure you use those styles of the same font. Mixing three or four fonts for the company details will only result in those details being difficult to read.

Design concepts clear in our heads, next month we will get down to actually producing the stationery.



A typical stationary pack can consist of many items, but we will concentrate on looking at the design aspect of three of the most used pieces: business card, letter head and compliment slip

Make sure to leave room within your letterhead design for the addressee and the letter itself. Fairly large margins all round will look better than smaller ones



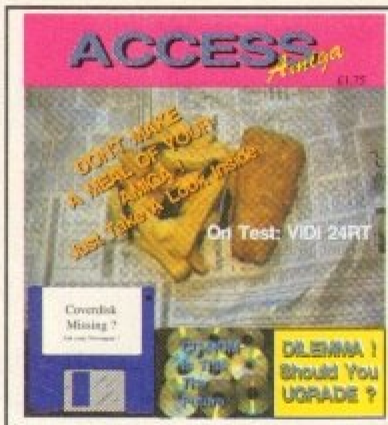
ACCESS Amiga

A NEW MAGAZINE !

From The Publishers of Amigamaniac

Amigamaniac have been around for some time now, offering Amiga owners the chance to save money on computer software & hardware simply by becoming a member of their club. For a small annual membership fee you not only saved money, but also received a bi-monthly publication. Well, the people behind the club magazine have been very busy indeed, and now produce a monthly magazine that contains news of the latest Amiga products, software & hardware reviews, some very interesting articles, tutorials, letters, and some brilliant competitions.

Additionally each issue also carries a coverdisk, sometimes even two.



ACCESS AMIGA - Launch Date 1st September 1993 !

Onto the important news, the latest issue of Amigamaniac is available now (No.6), and contains some excellent material. The main feature concentrates on the future of CD, with opposing views from different people in the industry. Products reviewed include Personal Paint, Amiback Tools, Wordworth 2 AGA, Studio, Typesmith, and hopefully reviews of both GVPs' DSS+ Sampler & Technosound 2, but this only touches the surface of the content because there is too much to list here.

Educational reviews also feature strongly in this issue, as do a good selection of books. On the tutorial front 'Printed Matter' deals with getting the best out of your Desktop Publishing program & printer. All this plus a superb coverdisk which features a demonstration version of Wordworth 2 AGA by Digita International. The new publication (Left) will be even bigger, and will feature some glorious colour. Exclusive to both magazines is Super Snake who appears in a humourous comic strip & some of the animation disks that are produced. Details of how to get hold of Amigamaniac are below. If you do decide to subscribe rest assured that you will get value for money, the publishers Weekend Developments are putting the finishing touches to a new semi-colour magazine called 'Access Amiga' (Price £1.75), this is included in the prices on the coupon which has been printed for your covenience, plus you can cancel your subscription at any time and a full refund will be given for any outstanding issues !

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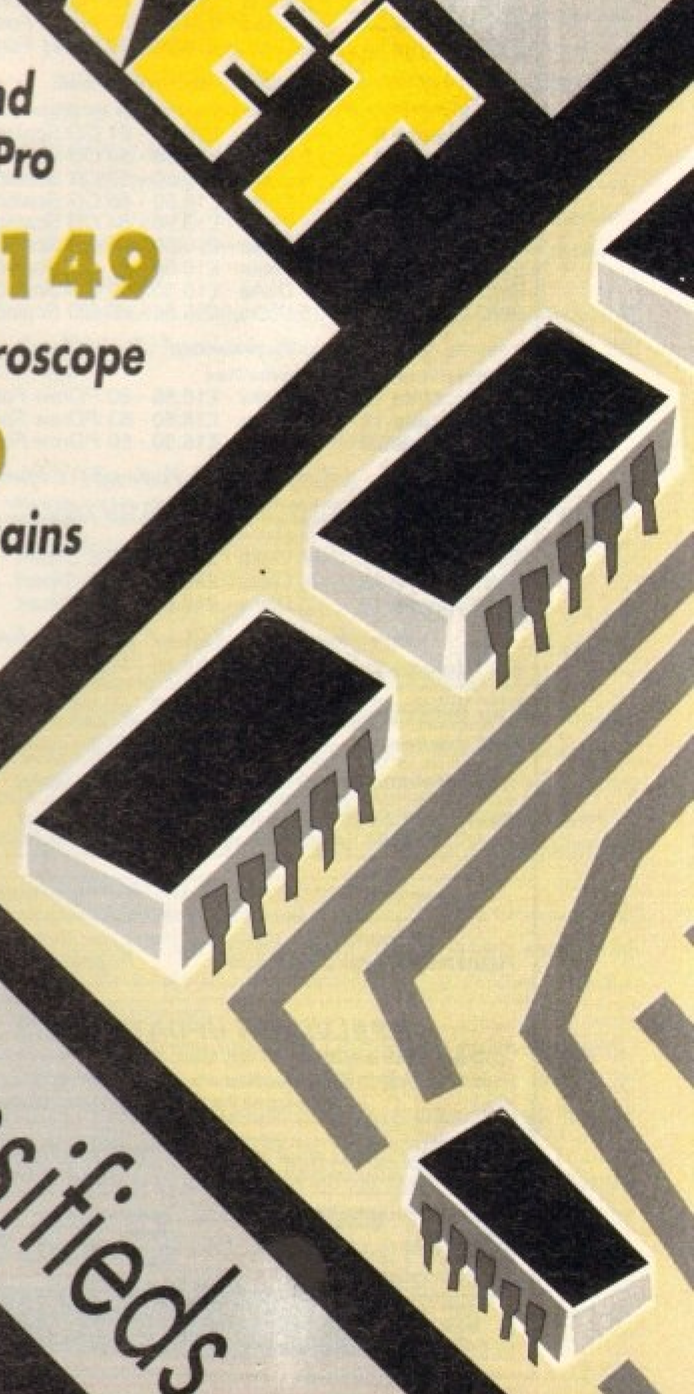
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AWARD CONSTRUCTION KIT

"...the package is excellent..." Amiga Computing - August 1993

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The program will work on any Amiga and has an excellent "point and click" user interface which has intentionally been designed to be simple to use. ACK is a modular programme, which gives users the ability to add new fonts and styles easily from additional ACK data disks, which will be available soon.
ACK is available exclusively from E.M.C., and for a special introductory period the program is available for:-

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EMC

Backup bonanza

Disk backup cartridge and software
Supplier: Siren Software
Phone: 061-724 7572
Price: £39.99

X-Copy is the best known Amiga backup cartridge system, so does the new Professional version live up to the reputation?

In the past the phrase X-Copy has been enough to send a shiver down the spine of even the most manly software developer. However, in an attempt to come clean – or at least clean-ish – the latest version of the X-Copy compendium boasts a commendable collection of tools in among the parrot droppings, pieces of eight and hardcore copiers.

At the forefront of the non-copiers comes the Xlent file manager, which although basic nevertheless offers an easy method of copying, moving, renaming and deleting files and directories.

As far as a straight comparison is concerned, XLent is blown away by PD and shareware offerings such as SID II and TDM, but having said that, both of the above will cost at least couple of quid each, plus the inevitable wait for delivery – whilst XLent is more or less a freebie and more than adequate for basic disk management.

Next stop on the utility trail is the XPress hard disk back-up utility. Again there are more powerful packages out there but unlike Xlent you'd need to spend serious cash on commercial software such as Quarterback or Ami-Back to gain any real benefit.

Like its commercial counterparts, Xpress offers a variety of subtle options including definition of multiple back-up devices, DF0: DF1: and so on.

In addition there's the usual selection of beeps and flashes for disk changes plus the essential verification, with the highlight being the ability to set an archive option which when applied allows you to restore only the files which have been altered since the last back-up.

Continuing in a selective vein it's also possible to select and de-select individual files and directories prior to backing-up. Better still a variety of filters can also be applied which will automatically choose files according to archive, data or pattern – yet another feature which is usually only found on commercial back-up utilities.

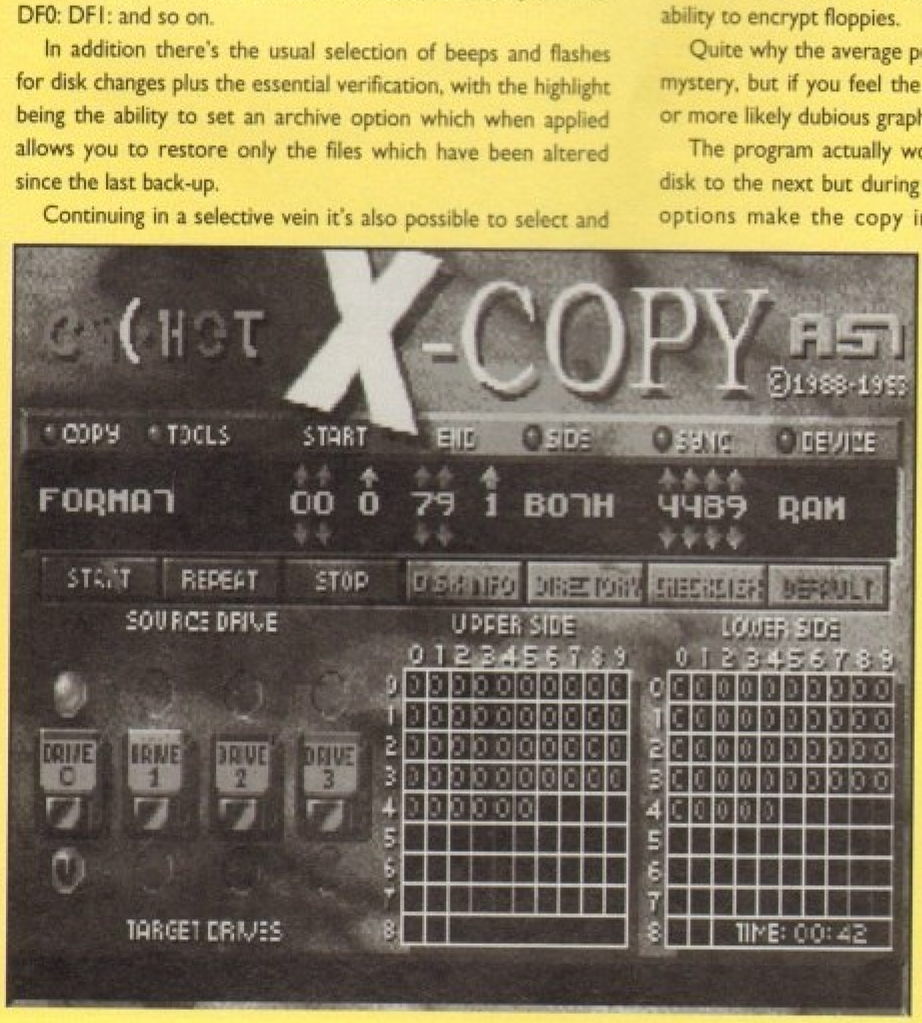
Following up the impressive Xpress comes a rather curious utility entitled X-IT, a program which offers the fairly unique ability to encrypt floppies.

Quite why the average punter would want such a facility is a mystery, but if you feel the need to hide sensitive information or more likely dubious graphics, X-IT offers a solution.

The program actually works by copying the files from one disk to the next but during duplication a variety of encryption options make the copy impossible to read without first decrypting back onto another disk.

However in order to restore a disk to its original state you must first have the password plus the original parameters used during encryption. These include settings such as the cylinder presets, bit rotation, reverse track, and whether or not the sides of the disk have been swapped.

Needless to say with such thorough precautions hacking into the disk is impossible without the password and presets. But be warned, if either the password or presets are misplaced there's no way to retrieve your secret software from the floppy.



Arrhhh... Jim lad, it be X-Copy Pro: "All that software for just £39.99, It's a crime!"

Last on the utility rundown comes an old favourite entitled QED – a text editor which older Amiga fans will know from the PD where it's still going strong. Perhaps the best description would be functional rather than spectacular – nevertheless its still a big improvement on the rather lacklustre Commodore offerings.

As the old guard will we be well aware, X-Copy – in its various forms – has been around almost as long as the Amiga itself.

Now available in the latest "Professional" revision, Cache have given the package a facelift with some glamorous new graphics plus the odd new function.

On the duplication side the program retains the usual collection of four copying formats including Doscopy, Doscopy+, Bamcopy+ and Nibble.

In descending order, Doscopy does exactly as the name suggest – but faster – while Doscopy+ works similarly but attempts to correct any errors on the original disk during duplication.

The rather oddly titled Bamcopy+ is an even faster and achieves its impressive speed by ignoring unused areas of the disk.

Duplication

Finally Nibble provides a rather plodding but effective copier which will back up some protected disks but more importantly duplicate floppies from other machines such as the IBM, Atari, Acorn and Archimedes...

On the utility side there's a reasonable selection of tools including, optimise, format, Qformat, Erase, install, and Speedcheck, Checkdisk, Drives-on and Killsys.

As you are probably aware, Optimise will simply rearrange the data on the disk to provide the best possible performance and access time – never use on commercial software. Format and Qformat emulate AmigaDOS formats but take less time to do it. Erase does exactly what you'd expect and simply scrubs the disk clean of all data.

Speedcheck is again self explanatory while Drives-on will allow you to add external drives to your system without the need for a reboot, and finally killsys is just another name for Close Workbench.

On the copying side all the usual options are covered including start and end track adjustment, side selection, whether or not to use a sync during duplication as well as a toggle to copy into RAM or onto the selected floppy/s.

As far as an opinion is concerned its hard to complain about a product that's fast, flexible and reliable as well as boasting the rare ability of work on all revisions of AmigaDos including Workbench 3. Finally we're arrived at the black sheep of the X-

➤

Copy collection, namely Cyclone. Unlike all the other programs Cyclone is unique in its need for external help in the form of a special dongle which fits between the external drive and its input.

Needless to say Cyclone has only one aim in life – and to achieve it five copying formats are provided plus yet another speed checker and disk wiping function.

Stringent

With the assistance of the special dongle you'd expect that the copying of commercial software would be a breeze. However nothing is ever simple and in the case of Cyclone backing-up such software requires a completely clean high density disk.

And even with this fairly stringent criterion adhered too, the program will only guarantee a reasonable degree of success when duplicating from originals. In fact this dependency on originals is in keeping with Cache's claim that the package is designed solely to make backups of protected software for their original owners.

In fact the cheap stapled manual that accompanies the software states that under EEC law the original owner is allowed to make one copy of any commercial release as long as it is strictly for his or her own use.

Leaving the legal aspects aside it must be said that the X-Copy & Tools is not only a nice collection of powerful copiers and useful utilities but a veritable bargain at just £39.99.

Shop Window

Order v2.51

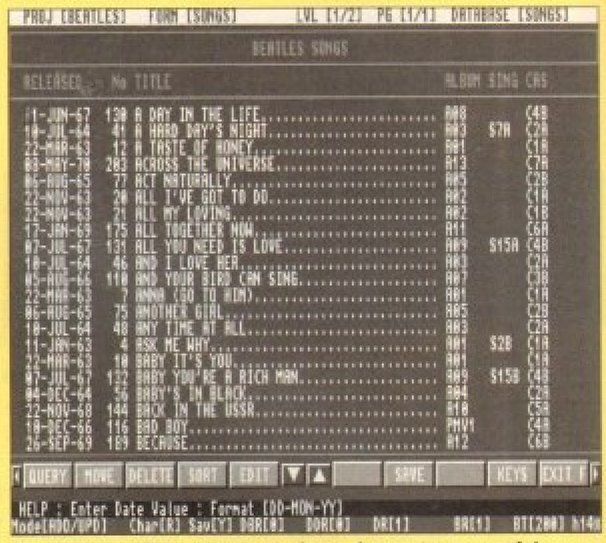
Relational database
Supplier: South Hams Software
Phone: 0752 880906
Price: £19.95

Order is a database which just refuses to die, despite the fact that on its first release it seemed to suffer from a number of major handicaps. Its author, however, has persevered with it and refined the program in several areas.

Hard disk installation has been introduced and vastly improved, and in the latest version there is the inclusion of relational report fields, adding a great deal of flexibility to the way in which users collate and export their data.

The main database program itself has been split into a user's and a developer's section so that the creation of databases can be kept in a module of its own. This is a sound move and makes the process of setting up a database that much easier by concentrating the user's mind on the job at hand.

Once a project (database) is up and running, complete with its multiple reports, forms, and so on, it can be accessed via the user module – an ideal way to create standalone information systems. Ideal, that is, until one presents an Order database to



Not graphically inspiring, perhaps, but quite powerful

the public. This package has never suffered much from speed problems, and at its present price is very good value for money, but it is still encumbered with an ugly, non-Amiga, unintuitive interface of the kind most PC owners had to suffer before the advent of Windows.

Steps have been taken to improve things, and Order is now no worse off than, say, Prodata in this respect, but it is still a point worth bearing in mind if considering a purchase.

For £20 you'll get a database which can handle a great deal of data and which has some surprisingly powerful features. Just don't expect too much of the user interface.

Invoice–It!

Supplier: Legendary Design Technologies Inc.
Phone: 0101 519 753 6120
Price: £TBA

If you're self-employed or run a small business then you would've realised by now that for the business to run smoothly you need to have your accounts in order. Invoicing can be right pain at the best of times and also a slow and tiring process.

Most people who do a lot of invoicing know that the process can be speeded up and made more efficient by using a computer. The problem lies in the software, because decent productivity software for your Amiga can be hard to find.

As if by chance, what should arrive in the post this month but Invoice-It!, an inexpensive and powerful invoicing program that promises to give you more than just an invoice package.

Invoice-It! is entirely designed with the self-employed and those who run small businesses in mind. It has been developed to be friendly and easy to use, yet still powerful at the same time.

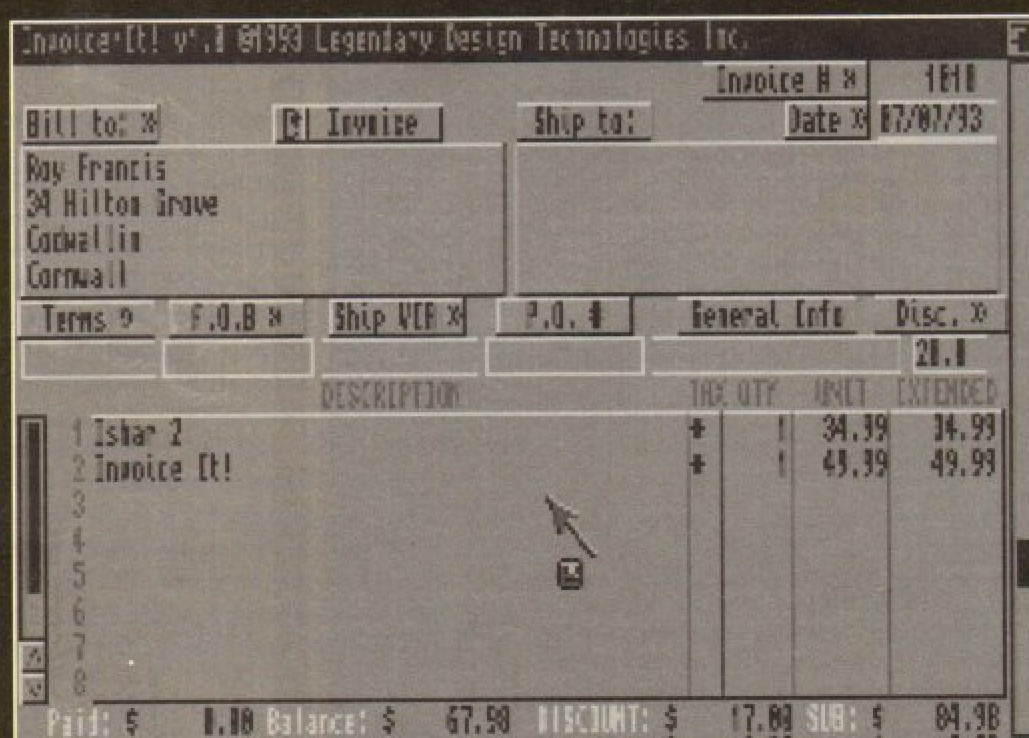
Invoice-It! allows the user to enter and track invoices and also includes powerful reports normally found in much more expensive software of this type.

Invoice-It! can work as a stand-alone program or you can interface it with other application programs you might own. For example, you can use it with on of Legendary's previous products, Address-It!

All reports that you generate can be sent to disk in Ascii format. This will allow you to import the information into a wordprocessor or spreadsheet for generating more comprehensive reports or sales graphs.

Legendary Technologies are based in Canada, so you will first have to set up the program to run using the British tax system. Once this is done, though, you will be free to start invoicing; the change is only minor and won't take long.

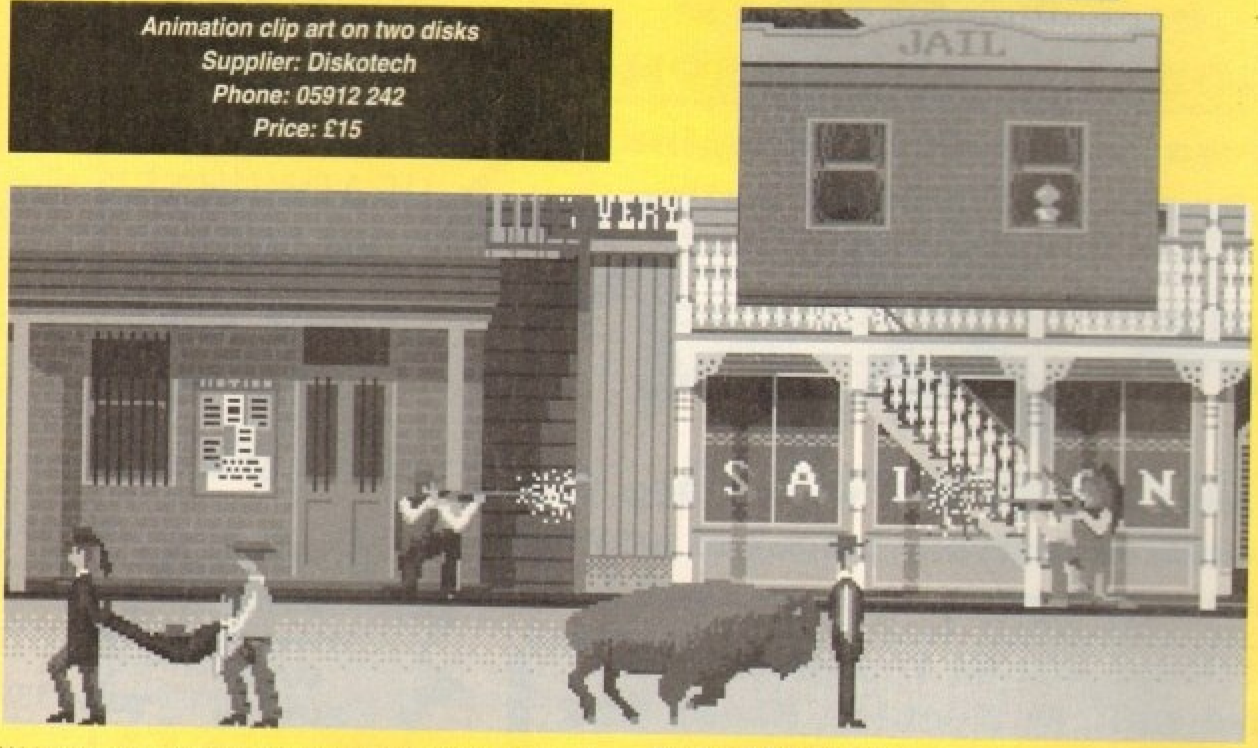
Now to start your invoice. You can enter information virtually in any order, although it is recommended that you start at the top and work your way down otherwise you're likely to get confused. The first thing to



Although the money is counted in dollers here, there is an option to use £ signs instead!

Western Movies 1 & 2

Animation clip art on two disks
Supplier: Diskotech
Phone: 05912 242
Price: £15



Watch out! Behind you!

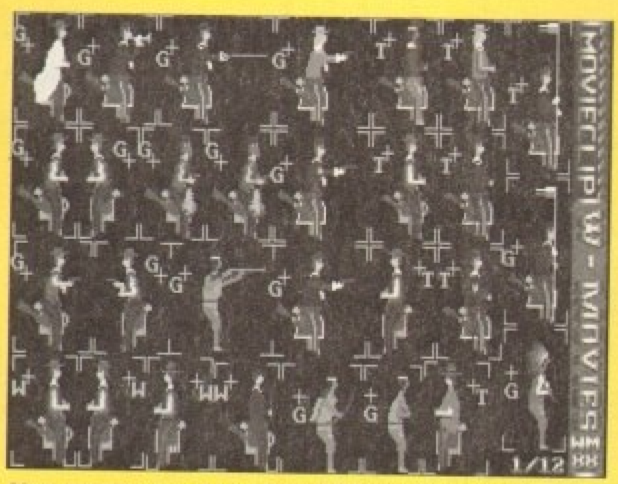
We've seen several attempts to make money from DPaint animations, some more successful than others, but this collection is a little bit different.

Rather than put together a disk full of disparate animations which are supposed to be realistic, Diskotech have gone for a cartoon approach. Western Movies holds dozens of animations crammed full of animbrushes ready to be cut out for use in a new "movie". Each separate example has a single extra frame containing crop marks to make exact cutting and pasting easier, but this sort of operation is a doddle without such aids.

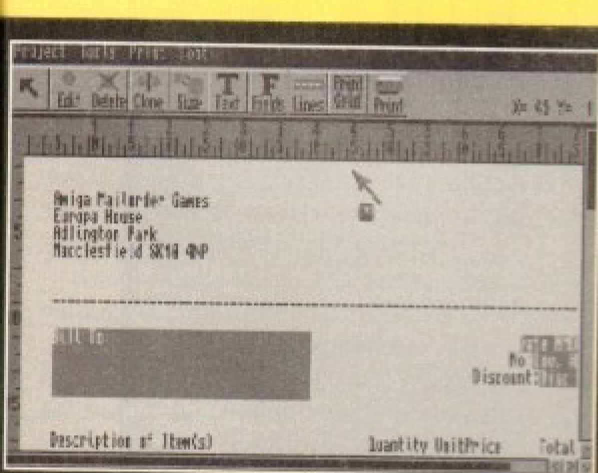
A quick browse reveals the presence of cowboys, Indians, cavalry, wagons, horses and a variety of backdrops showing town and desert scenes. The mixture is excellent, and includes figures shooting from horseback and from foot, men running, walking, riding, and jumping fences – even bandits shooting over their shoulders at some pursuing posse.

By just clipping and pasting in DPaint it is possible to quickly run up an animation including anything from a classic Indians vs cavalry shoot-out to a high noon duel. Memory is the only real restraint on the user, but as the individual brushmaps are often quite small, even 1Mb users should see some action.

Well drawn and offering plenty of fun, the Western Movies collection is good value for money at its present price. It is, of course, useless if you're not a fan of the Wild West, but those frustrated cowboys among us will let rip a yee-haaaa at the thought of trying their hands at an Amiga spaghetti western.



More animbrushes than you can shake a Winchester at



Invoice It! has simple to use layout tools

fill out is the "Bill To" fields. Here you have 4 lines by 40 characters to type who the invoice is billed to. Here you'd put the name of the company, the address and so on. The rest of the invoice is just as easy to fill out. Anyone with a basic knowledge of invoicing is likely to pick up the program with ease.

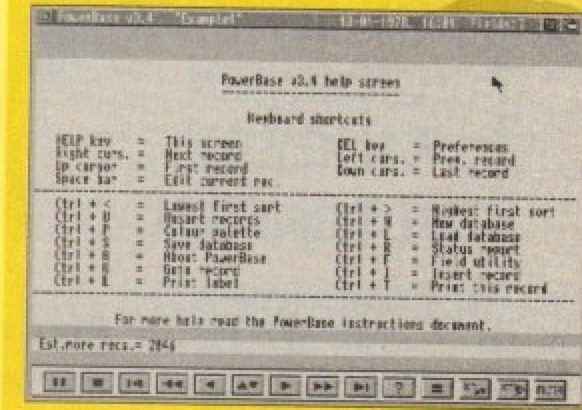
This is due to the fact that Invoice–It! is extremely easy to use and for such a comprehensive package everything is very straightforward. It's literally packed with features such as a ready available calculator and the option to print out mini–statements and the unique ability to actually design your own invoice layout on blank paper or pre–printed forms.

Invoice–It! is a really good invoicing package and is a lot better than some of its more expensive rivals. It is the perfect solution to your accounting and invoicing worries.

Shop Window

Powerbase v3.30

Non-relational database
Supplier: Amivision Software
Phone: 0922 414731
Price: £14.95



Powerbase offers easy VCR-style controls

In great contrast with Order v2.51, Powerbase is a program designed with ease of use in mind, and though it sacrifices certain more complex and powerful features such as relational data fields, Powerbase manages at the same time to be easy and meaty.

Controlled to a great extent by VCR-style buttons, the program has more in common with Mini Office or Superbase than more traditional databases like Order, but this doesn't mean it cuts corners on advanced features.

For example, the user can specify many different types of data field including the usual date, time, and numerical data, but in addition there is an IFF data type so that pictures can be attached to records and calculation across fields is possible. The latter feature is surprising not only in its inclusion, but in the fact that it is so very quick.

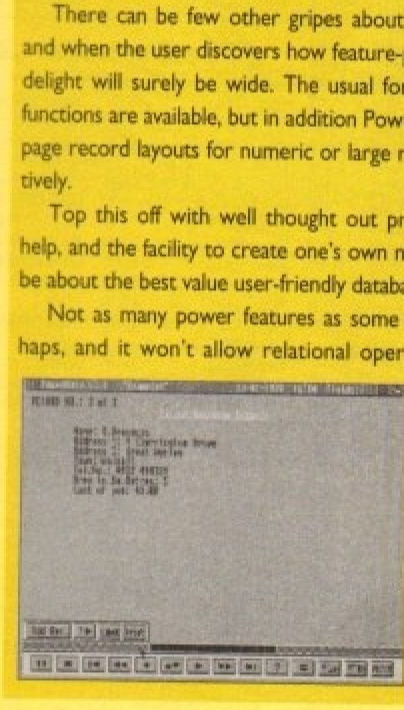
Searches are equally fast, and the filtering options are extensive, enabling data filtering using the standard Boolean-style filters (LIKE, EQ< and so on).

These are common enough that many database users will find them familiar, but I would have liked a simple linear fast find option for those one record searches in the quest for the elusive phone number.

There can be few other gripes about this package, though, and when the user discovers how feature-packed it is, the grin of delight will surely be wide. The usual form and report editing functions are available, but in addition Powerbase offers table and page record layouts for numeric or large record viewing respectively.

Top this off with well thought out printer control, on-line help, and the facility to create one's own macros, and this has to be about the best value user-friendly database on the Amiga.

Not as many power features as some other programs, perhaps, and it won't allow relational operations, Powerbase is nonetheless well worth a look, especially as a free demo is available if the interested user sends a blank disk to Amivision.



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Software spotlight

This month's concise round-up concentrates on DTP packages, from the cheapest to the most expensive and sophisticated

Professional Page 4.0

In its latest version, Gold Disk's Professional Page is an extremely powerful package offering both flexibility to the advanced user and ease of use to the beginner.

Its ARexx-based Genie functions make possible the automated design of pages and quick control of box and text effects, and its direct hot links to ProDraw, the Article Editor (a bundled text editor), and ProCalc give it an integrated power, albeit mostly with Gold Disk products.

Drawbacks include the program's sometimes less than intuitive keyboard short-cuts and its strict adherence to boxes, which can restrict design flexibility a little.

In addition, ProPage continues to rely exclusively on CompuGraphic fonts, despite the abundance of excellent Adobe Type I shareware fonts, and although Gold Disk have tried to address this problem with a font converter utility, the conversion process will not work with fonts which have .PFM files, insisting instead on the .AFM files found in official (and expensive) Adobe fonts.

These grumbles aside, ProPage 4.0 is a powerful top-end Amiga DTP package which always deserves long and thoughtful consideration before the user plumps for a package. For AGA users, it has to be the only choice, offering full support for all new screen modes and full on-screen 256 colour previews of any graphic.

Supplier: Silica Systems
Phone: 081-309 1111
Price: £249.95

PageStream 2.22

SoftLogik's ugly duckling has, over the last year, swanned its way to the top in the battle with ProPage due to several bug-fixing revisions and a totally new look and feel with v2.2.

In terms of features, little now remains to choose between the top packages, but in certain areas, PageStream has a definite edge.

User friendliness is the program's first advantage. Version 2.2 has been thoroughly designed with a Workbench 2.04 look and feel, leading to very intuitive keyboard controls – everything does what you'd expect it to do – and clean, simple requesters. All these design shenanigans, though not a big issue with prospective buyers, tends to really hit home once the package is used for any length of time.

PageStream is also rather more flexible than its main rival in the range of fonts and artwork it will accept. Both CompuGraphic and Adobe Type I fonts are instantly usable, and the package has a font converter to enable the use of Apple Macintosh non-standard Adobe fonts.

When purchased with the Hotlinks Editions package, PageStream has instant Dynamic Data Exchange capabilities to match those offered by ProPage's ARexx Genies, with the added advantage that the system is open-ended.

Hotlinks has still to be taken on board by other major software houses, but if it does take off, PageStream's support for it will give the SoftLogik product a whole new dimension.

Supplier: Meridian Distribution
Phone: 081-543 3500
Price: £199

PageSetter

An old, non-PostScript program for the amateur user, PageSetter 2 is restricted to simple documents and has few of the powerful features found on the high end packages.

It is affordable and easy to use, but for anything other than low quality fanzines or the ubiquitous parish newsletter it is a DTP no-go.

PageSetter is best looked upon as a purchase for those wishing to dabble in DTP or who want better layout options than those offered by their wordprocessors. A good introduction to Amiga DTP but not a package with which to make your fortune.

Supplier: Silica Systems
Phone: 081-309 1111
Price: £50

PageSetter 3

The first AGA-compatible DTP package, PS3 offers a ProPage-like interface with the basic DTP tools and a very colourful display. The result is a slick, easy to use package capable of a variety of simple DTP tasks.

Though not one for the professional or those looking to produce multi-page documents, PageSetter 3 should be perfectly adequate for the needs of most home and enthusiast users.

Supplier: First Computer Centre
Phone: 0532 319444
Price: £42.99

PostScript fonts

Agfa starter pack

The first commercial release of Agfa format fonts on the Amiga, the starter pack contains 12 high quality fonts ranging from the sober Times Bold to the more inebriated Branding Iron. The typefaces are clean and well formed at all sizes and have a touch of class missing from many shareware fonts.

For the price, the user could buy many more shareware examples, but professional users might be happier with a smaller, but better quality, font library.

Supplier: Megatype
Phone: 0759 58988
Price: £32

EM Computergraphic

The range of shareware PostScript fonts offered by EMC has expanded rapidly from a good selection of SoftLogik-style fonts exclusively for use within PageStream to a large collection of Type I and CompuGraphic fonts for use in all packages. The quality can vary, but as each five-disk selection costing only £12.50 can contain dozens of typefaces, there are usually plenty to suit all tastes.

Some exceptional general purpose fonts can be found among the usual one-off occasionals you'd use for one party invitation and never look at again, and when the minimum £60 asking fee for an official Adobe or CompuGraphic font is considered, it is well worth paying £12.50 for only one font you actually like.

In addition, the company stocks the Safari range of fonts, including the excellent Star Trek font collection – an absolute must for all Trekkies.

Supplier: E.M Computergraphic
Phone: 0255 431389
Price: £12.50 per volume

George Thompson Services

The GTS range of fonts is not as wide as that offered by EMC, but the quality of what is on offer is every bit as good. The 37 fonts available on the first GTS font pack, available in CompuGraphic or Adobe Type I format, can be used within all the major DTP packages, and contains a couple of useful standard fonts as well as the more whack occasional typefaces.

More font packs are on the way as the shareware fonts war heats up, so the next few months should be a good time for Amiga DTP users..

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◆ A600, Joystick, 6 months old, £180. Tel:0252 871269.

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◆ Amiga contacts, all kinds of swaps. Chris W, 281 Bolton Road, Radcliffe, Manchester.

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Amstrad MEGAPC, includes built-in Sega Megadrive, Ad-Lib sound card VGA Monitor with built-in stereo speakers, MS-DOS v5 and Lotus 3.
All the above for only £999.99



Power Computing's innovative 4MB 32-bit memory expansion for the Amiga 1200 is now available. The PC1204 includes these many features:

Zero Wait State - Unlike some other expansions the PC1204 never leaves the processor waiting around for data, which means that your A1200 can run at its maximum speed.

Ultra Fast FPU - An optional maths co-processor speeds up intensive calculations. A 50MHz chip will speed up operations by up to fifty times.

Real-Time Battery Backed Clock - Allows files to be date-stamped with the correct time and date so that you know exactly when they were created.

Low Power - High density RAMs means low power consumption.

Easy To Fit - Fitted in minutes without the need to remove the computer's case.

Optional FPU Disable Switch - Disable the FPU instantly for software that will not run with a maths co-processor installed.

	Power PC1204	A leading competitor
Speed Vs standard A600	4.84 times faster	4.79 times faster
Speed Vs standard A1200	2.19 times faster	2.17 times faster
CPU MIPS	2.96	2.93

PC1204 4MB with clock, no FPU Processor **£185.95**
PC1204 4MB with clock, 20MHz 68881 FPU **£219.95**
PC1204 4MB with clock, 25MHz 68882 FPU **£279.95**
PC1204 4MB with clock, 33MHz 68882 FPU **£289.95**
PC1204 4MB with clock, 40MHz 68882 FPU **£299.95**
PC1204 4MB with clock, 50MHz 68882 FPU **£339.95**



Power Computing's XL 1.76MB Drive* for an Commodore Amiga is now available. The XL Driv includes these many features:

Formats to 1.76MB - Using high density disk you can fit a massive 1.76MB on each disk.

Acts as a standard drive - Insert an 880 Amiga disk and the drive behaves like any othe Amiga drive.

Fully compatible - Will read and write disks wr ten on an Amiga 4000 internal high density drive.

Compatible with PC disks* - Also read an write high density PC disks using a suitable device driver

Compact size - No larger than a standard 880 floppy disk drive.

High quality design - Uses a high quality Son high density mechanism.

Comes complete with disable switch and through port.

XL DRIVE

XL Drive £99.95

*Requires Kickstart 2 or above. *Requires Workbench 2.1 or above.

48Hr delivery **£2.50**, 24Hr delivery **£4.50**
Parcel Post delivery **£1** (Orders under £50 & UK mainland only)
Specifications and prices subject to change without notice
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Kempston Bedford MK42 7PN
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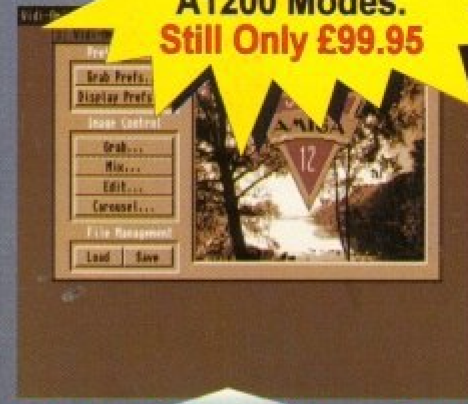
VIDI-AMIGA 12 *Ver 2*

Now Supports all New AGA & A1200 Modes. Still Only £99.95

The all new Vidi-Amiga 12 (Ver.2).
You may think our existing Vidi-Amiga 12 is a hard act to beat, but when you look closely at our newly designed ergonomic interface and interactive menu system you will surely agree that the impossible has been achieved !.

Vidi-Amiga 12 is now faster, smoother and even easier to use than before. It has specification levels unmatched by any other product, at any price !. With full A1200 and AGA chipset support. A summary of the specification is listed below... Many improvements have been as a direct result of customer feedback.... Thank You.

Rombo, the makers of..Vidi, the best selling Digitiser in the World



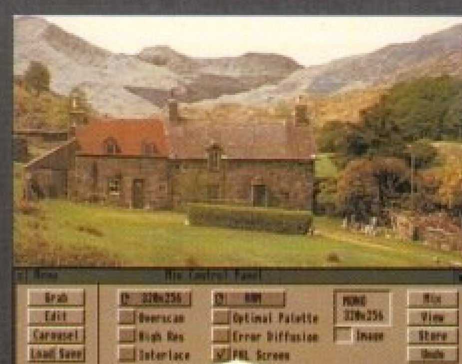
MAIN CONTROL WINDOW



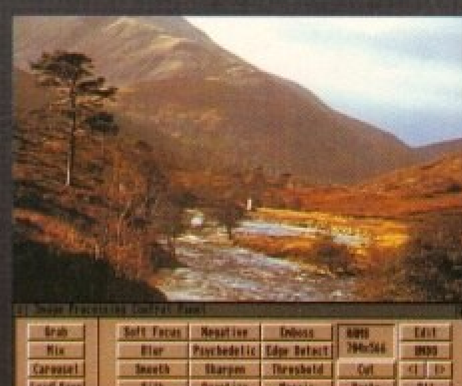
NEW GRAB MENU



NEW ANIMATION WORKSTATION



NEW MIX CONTROL PANEL



NEW IMAGE PROCESSING

Vidi-Amiga 12 V2.00 Specification

Composite, S-Video or SVHS inputs.

Digitise in	320 X 200 NTSC	or	320 X 256 PAL
	320 X 400 NTSC	or	320 X 512 PAL

Supports the following screen modes

*262000 HAM-8	*4096 HAM	*256 COLOUR
*128 COLOUR	*64 COLOUR	*64 EHB MODE
*32 COLOUR	*16 COLOUR	*8 COLOUR
*4 COLOUR	*2 COLOUR	*HAM-E (*)

Display resolution up to 704 x 566:

320 X 256	320 X 200	640 X 512
320 X 512	320 X 400	704 X 240
384 X 283	384 X 200	704 X 283
384 X 566	640 X 240	704 X 480
640 X 256	640 X 400	704 X 566

SUPPORTS FULL OVERSCAN/ INTERLACE/ HI-RES MODES

Other Features Include:

New

*SWIPE & PLAY ANIMATION WORKSTATION.
*LOAD & SAVE 12 & 24 BIT IFF FILES.
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*TIME LAPSE REMOTE GRABBING.
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New Improved Image Processing

*NEGATIVE	*MOSAIC	*EMBOSS
*SHARPEN	*THRESHOLD	*BLUR
*QUANTISE	*SMOOTH	*CUT
*SILK	*EDGE DETECT	*PASTE
*SOFTFOCUS	*PSYCHEDELIC	*FRAME SELECT

Compatible with all Amiga's Including Workbench 3.0

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